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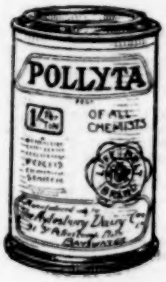

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ON

AUTO-INTOXICATION: ITS RELATION TO CERTAIN DISTURBANCES OF BLOOD PRESSURE.

Delivered before the Royal College of Physicians of London on March 13th, 15th, and 20th, 1906,

BY H. BATTY SHAW, M.D. LOND., F.R.C.P. LOND.,

LECTURER IN THERAPEUTICS, UNIVERSITY COLLEGE, LONDON; ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND TO THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

LECTURE I.

Delivered on March 13th.

MR. PRESIDENT AND GENTLEMEN,—Before entering upon the discussion of the subject of auto-intoxication it is my duty to acknowledge the high compliment that has been paid to me by inviting me to deliver the Goulstonian lectures for the present year. Dr. Goulston was impressed with the importance of pathological study and sought to insure that lectures should be given annually by one of the four junior Fellows of this College on observations resulting from a close scrutiny of pathological problems. He thereby contributed his support to the wholesome belief that theoretical considerations should not be tolerated except when supported by direct observation. If during these lectures I confine myself largely to problems connected with proteid and nucleo-proteid reaction both in the natural and disintegrated state rather than to the study of carbohydrates and of hydrocarbons, an explanation is offered that only last year Dr. W. Cecil Bosanquet on a similar occasion to the present one drew attention to this most interesting side of the problem. If, again, the considerations to be put before you on the present occasion refer largely to matters connected with the disturbances of the circulation and the cardio-vascular mechanism, the reason offered is that during the last few years such important additions have been made to our methods of clinically investigating circulatory disorders, that it appears to your lecturer that the time is ripe for a consideration of some pathological problems which now have assumed a new aspect.

It is an experience common to us all that during our careers as physicians some one of the numerous problems brought to our notice at the bedside, post-mortem room, or laboratory has appealed to us with peculiar insistence. The following incident is a case in point.

A married woman, aged 48 years, was admitted to University College Hospital under the care of the late Dr. G. V. Poore. She was suffering from acute bronchitis and died a few minutes after admission. At the post-mortem examination, besides diffuse bronchitis and scattered patches of broncho-pneumonia, the following observations were made. The heart weighed 14 ounces, the left ventricle was hypertrophied, the mitral valves were sclerosed and incompetent, and the arch of the aorta showed atheroma. The right kidney was considerably enlarged and showed the scar of an infarct, its weight amounted to seven ounces; the left kidney showed extreme contraction and weighed 240 grains. The total kidney substance amounted to 213·95 grammes (the total kidney substance of an average adult male amounts to 277 grammes). The presence of an infarct scar in the right kidney suggested that a similar process accounted for the extreme shrinkage of the left kidney. To Dr. Harold S. Capper, house physician to Dr. Poore, was due the credit of making a close examination of the left renal artery. It admitted a fine bristle with difficulty; on carefully opening the renal artery a patch of atheroma was found which was responsible for the occlusion which had led to such a remarkable shrinkage of the left kidney.

Various points may be raised from a consideration of this case—e.g., on the share in the hypertrophy of the heart due to the mitral regurgitation and the share due to the practical annihilation of one kidney and the damage done to the other. Such questions in this case cannot be clearly answered, but another question arises and that is, Do we pay sufficient attention in the elucidation of various pathological problems to the grave results which may follow arterial disease? and a final problem is raised, What is the effect upon the economy when an organ such as the kidney disintegrates? It obviously must have disintegrated and the products of disintegration must have entered the circulation by the veins or lymphatics, and it is quite a subject for discussion to consider the possible effects of the presence in the circulation of such products of cell destruction.

No doubt the majority of diseases arise from external agencies but it is the object of these lectures to consider the possible effects due to auto-intoxication, to inquire into the changes which take place when from any other cause the organs and tissues of the body are made to disintegrate. Too large a field would lie before us if we attempted to discuss these auto-intoxications which result from the suppression of functions of various organs or from the internal diversion of natural excretions. Moreover, it is entirely beyond the scope of these lectures to discuss the so-called auto-intoxications which arise from infections occurring in the alimentary canal or other passages connected with the exterior. In other words, these lectures will to a certain extent concern themselves with very similar problems to those to which Gautier and Bouchard years ago addressed themselves. The term "leuc maines" was applied to three groups of bodies as represented by choline, uric acid, and creatinine. No doubt from a physiological point of view many of these leucomaines have in the past been regarded as very mildly toxic agents, but it is fair to assume with Pflüger that in pathological conditions, especially in cases where elimination is interfered with, the accumulation of the products of cellular disintegration, whether of a physiological or pathological origin, may have harmful effects.

At the present moment there are various reasons why pathology should be interrogated as to its answer to the question what symptoms and signs met with at the bedside may be attributed to auto intoxication in the above restricted sense. The principle is admitted most widely, but the exact evidence supporting such theory is, to say the least, not set out in our systems of medicine as clearly as the frequency with which we do not hesitate to invoke auto-intoxication demands. Another reason for discussing the problem is undoubtedly due to the fact that we are not able to trace directly to bacterial invasion some of the manifestations met with clinically: observers are quite sure that some effects are due to quite different causes than bacterial invasion. Toxins of cellular origin have been found to exist and brilliant discoveries have of late years been made in the domain of cytotoxins and of the interaction of organs derived from different animals upon one another. Such a subject, however, could not possibly form any part of a course of lectures on auto-intoxication. Much more excuse, however, is found for such lectures as the present one, on the grounds that in the domain of chemical physiology great advances have been made not only abroad but in this country. The reaction of derivatives of the disintegration of cells is a subject which appears, ever since the discoveries made by the late Dr. Wooldridge, to have excited particular interest in this country and in my endeavours to approach the subject of auto intoxication I find that his researches form the foundation of a great deal of modern chemical physiology and largely, I venture to think, because with such clear insight he saw what an immense importance such a subject has for pathology. If a large part of these lectures is devoted to the subject of blood pressure in disease, my excuse must be that the remarkably accurate estimate given by the sphygmomanometer of human blood pressure[1] has given such an impetus to the investigation of clinical blood pressure that we are flooded out with a large number of facts but are hardly able to appreciate their significance.

With this brief introduction I may pass on to the closer study of auto-intoxication—i.e., to the study of the effects of the dissolution of cells of various organs and tissues as shown by the toxic effects of their products, restricting myself in the main to the consideration of the products of proteid and nucleo-proteid degradation, including not only the deep degradation products but those more vital agencies a study

[1] Lockhart Mummery: Proceedings of the Physiological Society Feb. 25th, 1905, xxiii.

of which is only possible when we examine the effects produced by fresh tissues—i.e., tissues which, though disintegrated by mechanical means, may be considered still living tissue in so far as the formation of their deep disintegration products has not yet begun.

BLOOD PRESSURE IN HEALTH AND DISEASE.

Very considerable interest has been aroused in recent years in the clinical observations of blood pressure. The range of variations in different diseases is considerable and great departures from the normal have been observed in various medical disorders. I propose to bring before you some observations made on patients under the care of my colleagues. Care has been taken to follow the precautions laid down by various writers on the subject. The observations were taken twice daily at about 9–10 A.M. and 8–10 P.M. In all cases, where possible, the patients were recumbent and the arm was so arranged that that part of the limb—viz., the upper arm—on which the sleeve of the sphygmomanometer was applied was on the level of the heart. In some cases recumbency was impossible: then the arm was raised by means of pillows so that the upper arm and heart were on the same level. The instrument used throughout has been the Riva-Rocci sphygmomanometer as modified by von Recklinghausen.[2] The latter observer discovered that the width of the armlet or manchette was of importance; if too narrow the pressure reading was considerably higher than if a wider armlet was used. The size of the sleeve which von Recklinghausen found to be the most satisfactory was for an average adult's arm 10 centimetres; a width of 15 centimetres was suitable for all sizes of arms. The armlet used in the present observations consisted of two parts, a rubber bag which was immediately applied to the arm and a metal band which encircled the bag; the former measured 13·97 centimetres and the latter 12 centimetres in width. The tubing was stiff rubber, outside diameter half an inch and diameter of bore three-sixteenths of an inch. As much precaution as possible was taken to prevent any excitement on the part of the patient when the reading was taken. The readings at night were in a large proportion of cases taken by members of the nursing staff of University College Hospital; in the mornings the observations were mostly personal ones. The blood pressure observations represent the systolic pressure, air being pumped into the hollow armlet until the pulse of the arm was obliterated and then observation was made of the height of a column of mercury in a manometer connected with the hollow armlet; that height was recorded at which the pulsation of the radial artery returned; the readings were repeated once or twice before being recorded and in many cases until accuracy was secured to the observer the observations were checked by another observer. In all cases, unless otherwise specified, there was complete absence of œdema or muscular rigidity.

Thayer[3] has constructed a table of the blood pressure in 276 healthy individuals arranged in decades. Making a correction of 25 millimetres for the use of a 5·0 centimetre armlet in the cases he observed after ten years of age, the variation is shown as in the accompanying chart.

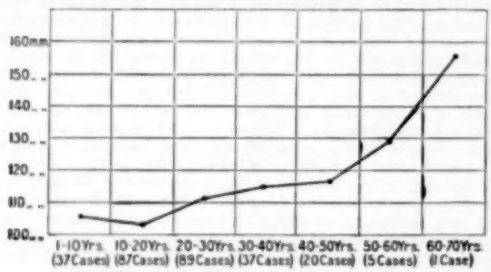


Diagram showing rise of systolic pressure with increasing years in healthy persons.

The rise of pressure in later years may be due to a variety of causes of pathological nature; the common visible accompaniments of advancing age—viz., arterio-sclerosis and cardiac hypertrophy—are well known, but as it is also known that old age may occur without these accompaniments, it must be felt that the rise of pressure so often met with in old age may be due to certain causes of which at present we are ignorant and which are of a pathological origin. Through the courtesy of Dr. Harley Brooks of the Mile End Infirmary it has been possible to add further observations on the blood pressure of elderly people. 23 men were examined between 10 A.M. and 12 noon and the blood pressures were taken in the manner already described. Two cases were observed at ages between 40 and 50 years; two between 50 and 60 years; seven between 60 and 70 years; four between 70 and 80 years; and eight between 80 and 90 years. The average pressure of the seven cases between 60 and 70 years was 155·8 millimetres, which agrees with the one case recorded in Thayer's chart; between 70 and 80 years the average pressure was 166 millimetres; and between 80 and 90 years 155·3 millimetres. Most of these patients were bed-ridden; the observations made are shown in Table I.

TABLE I.—*Systolic Blood Pressure in Infirmary Patients (Men in Recumbency).*

Case.	Age.	Systolic pressure.	Clinical association.
1	49	88 mm.	Tuberculosis; arterio-sclerosis; no albumin.
2	46	143 ,,	Ulcers of the legs; no arterio-sclerosis; no albumin.
3	56	138 ,,	Rheumatoid arthritis; slight albumin.
4	53	163 ,,	Sciatica; arterio-sclerosis; no albumin.
5	69	158 ,,	Ulcers of the legs; trace of albumin; very slight arterio-sclerosis.
6	67	170 ,, (left arm)	Right hemiplegia; arterio-sclerosis; some albumin.
7	65	110 mm.	Arterio-sclerosis; ? lymphadenoma; no albumin.
8	60+	160 ,,	Ununited fracture; no albumin.
9	65	160 ,,	Paralysis agitans; slight arterio-sclerosis; no albumin.
10	66	123 ,,	Bronchitis; moderate arterio-sclerosis; no albumin.
11	60+	210 ,, (right arm)	Left hemiplegia; marked arterio-sclerosis; albumin present.
12	76	180 mm.	Diarrhœa; moderate arterio-sclerosis.
13	72	194 ,, (left arm)	Partial right hemiplegia; trace of albumin.
14	78	155 mm.	Debility; arterio-sclerosis.
15	73	145 ,,	Ulcer of the leg; moderate arterio-sclerosis; albumin.
16	80+	155 ,,	Eczema; arterio-sclerosis.
17	82	144 ,,	"Senility"; albumin present; arterio-sclerosis.
18	88	130 ,,	Marked arterio-sclerosis; diarrhœa; "debility."
19	81	107 ,,	Marked arterio-sclerosis; ? cystitis.
20	80	175 ,,	Debility; arterio-sclerosis; no albumin.
21	86	190 ,,	Bronchitis; marked arterio-sclerosis; albumin.
22	83	182 ,,	"Debility"; arterio-sclerosis.
23	83	160 ,,	Bronchitis; arterio-sclerosis; albumin.

Three only of these cases show moderate pressure. Case 1, aged 49 years, showed a pressure of 88 millimetres; it will be noticed that he had tuberculosis of the lungs, a disease which is associated with low pressure. Case 7, aged 65 years, had a pressure of 110 millimetres; Case 10, aged 66 years, had a pressure of 123 millimetres; and Case 19, aged 81 years, had a pressure of 107 millimetres; in this latter case it is to be observed that the urine was offensive. Despite the want of uniformity in the readings of the sphygmomanometer these observations confirm the view that with increasing years there is generally a rise of arterial pressure. To mark the contrast between this hypertension of age and possibly disease with the pressure met with in an earlier period of life with health reference was made to the blood pressure of young healthy males in the persons of 42 schoolboys attending University College School. I take this opportunity to thank Dr. H. J. Spenser for his courtesy in allowing these observations to be made. These boys were so healthy that they were able to take part in gymnastic exercises. The time chosen

[2] Von Recklinghausen: Archiv für Experimentelle Pathologie und Pharmakologie, 1901, Band xlvi., S. 78.
[3] Thayer: American Journal of the Medical Sciences, 1904, vol. cxxvii., p. 391.

for examination was between 10.30 A.M. and 12.40 P.M. The boys were immediately before examination engaged in class work, not in gymnastic exercises. The average blood pressure in recumbency of six boys between 11½ and 12½ years of age was 104·5 millimetres; between 12½ and 13½ years, 105·5 millimetres; between 13½ and 14½ years, 107·5 millimetres; between 14½ and 15½ years, 108·8 millimetres; between 15½ and 16½ years, 124·1 millimetres; between 16½ and 17½ years, 118·8 millimetres; and between 17½ and 18½ years, 111·6 millimetres. (Table II.)

TABLE II.—*Systolic Blood Pressure in Apparently Healthy Young Males (in Recumbency).*

No.	Age.	Pressure.	No.	Age.	Pressure.
1	11 5/12	95 mm.	22	15 5/12	128 mm.
2	11 6/12	106 ,,	23	15 6/12	140 ,,
3	11 8/12	107 ,,	24	15 8/12	127 ,,
4	12 1/12	98 ,,	25	15 11/12	110 ,,
5	12 3/12	121 ,,	26	15 8/12	135 ,,
6	12 5/12	100 ,,	27	15½	125 ,,
7	12 7/12	115 ,,	28	16 1/12	125 ,,
8	12 8/12	108 ,,	29	16 2/12	130 ,,
9	12 7/12	98 ,,	30	16 6/12	120 ,,
10	13 1/12	97 ,,	31	16 7/12	118 ,,
11	13 3/12	106 ,,	32	16 10/12	103 ,,
12	13 4/12	109 ,,	33	16½	105 ,,
13	13 6/12	104 ,,	34	17 1/12	122 ,,
14	13½	105 ,,	35	17 2/12	152 ,,
15	13 9/12	112 ,,	36	17 5/12	113 ,,
16	14 2/12	127 ,,	37	17 6/12	98 ,,
17	14 4/12	103 ,,	38	17 8/12	109 ,,
18	14 5/12	95 ,,	39	17½	128 ,,
19	14 10/12	87 ,,	40	18 3/12	93 ,,
20	15	127 ,,	41	18 4/12	137 ,,
21	15	104 ,,	42	18 5/12	105 ,,

Here, again, it is very obvious that there are variations in the systolic blood pressure of different individuals of the same age and from the above table it will be seen that there is no steady advance in pressure in accordance with the age of these youths; no doubt some of the pressures are unusually high and may be attributable to a little excitement on the part of the boys examined. Precautions were, however, taken to avoid these disturbances as much as possible, the pressure being first taken in the sitting posture to accustom them to the instrument and then after from three to four minutes' recumbency they were examined again and the above results obtained. It is well known that a very different reading is given after the same mental excitement in individuals of different temperament, being higher in the more excitable.

BLOOD PRESSURE IN DISEASE.

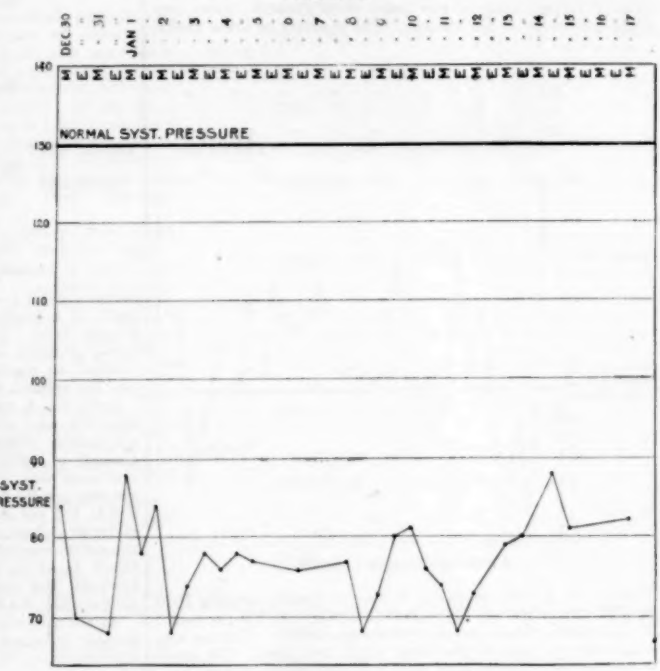
Janeway[1] states that in adult life the pressure is in men before 50 years of age from 100 to 130 millimetres and after 50 years from 130 to 145 millimetres, and in women about 10 millimetres less using the 12 centimetre armlet. Observations, 68 in number, have been made in various forms of disease in the wards of my colleagues at University College Hospital. Taking Janeway's figures as a guide, 42 cases were found to have systolic pressures within the limits of ordinary health, and these included under a clinical diagnosis: cirrhosis of the liver, four cases; valvular disease, eight cases; diabetes mellitus, four cases; bronchitis and emphysema, four cases; aneurysm and arterio-sclerosis, two cases; tuberculosis of the lungs, two cases; other diseases, 18 cases. Under the last category are included dyspepsia, ascites following removal of ovarian tumour, meningitis, disseminated sclerosis, neurasthenia, gastric ulcer (two cases), gall-stones (without jaundice), tabes dorsalis (two cases), alcoholic neuritis, hæmaturia, acute rheumatism, otitis media, pernicious anæmia, exophthalmic goitre, lymphadenoma, and trypanosomiasis.

A second group of cases of *abnormal* blood pressure includes two subdivisions: 1. A number of cases in whom the blood pressure was *lower* than normal. They were 14 in number and included the following: acute bronchitis (fatal), arterio-sclerosis (? abdominal aneurysm), acute pneumonia, cirrhosis of the liver, advanced carcinoma of the stomach (two cases), jaundice (two cases), empyema, malaria, status epilepticus, chronic Bright's disease, aneurysm of the arch of the aorta, and a case of unusual character in which the only signs were pain about the root of the nose associated with a hard œdema of the neighbouring skin, independent of suppuration of the frontal sinuses, &c. (See Charts 1 and 2.) 2. A number of cases in whom the blood pressure was *higher* than normal; these were 12 in number.

CASE 1.—A man, aged 80 years, was taken to the hospital shortly after an attack of giddiness and fainting which occurred whilst walking. He was found to be conscious but there was paresis of the left arm, leg and face. The pulse was 90, of large volume and of high tension. There were present marked arterial disease and an accentuated second aortic sound. The urine was reduced in amount, showed a specific gravity of 1018 and a cloud of albumin. The blood pressure is shown in Chart 3.

A post-mortem examination was made eight days after admission. There was no cerebral hæmorrhage: the arteries at the base of the brain were markedly atheromatous and dilated. There was no thrombosis in the larger cerebral vessels; the sinuses were normal; the convolutions were apparently normal. The heart weighed 16 ounces; the valves were normal. There was atheroma of the aorta, the limb-vessels, and the coronary arteries. With regard to

CHART 1.

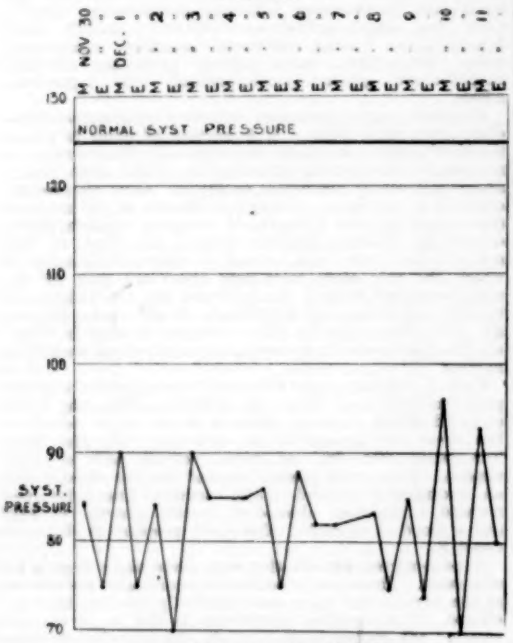


A man, aged 41 years; carcinoma ventriculi.

[1] Janeway: The Clinical Study of Blood Pressure, 1904.

the kidneys, the right weighed four ounces and the left four ounces; the capsules were adherent; the cortex was reduced to one-eighth of an inch, the substance was tough, and cysts were present.

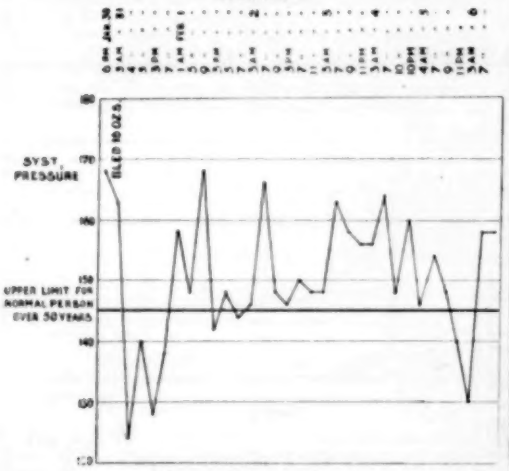
CHART 2.



A man, aged 35 years; œdema of the face.

CASE 2 (*vide* Chart 4).—A man, aged 41 years, was admitted for headache and hæmaturia. The patient was emphysematous and the body was well covered; no clinical signs of hypertrophy of the heart were present; there was slight tortuosity of the vessels. The quantity of urine varied

CHART 3.



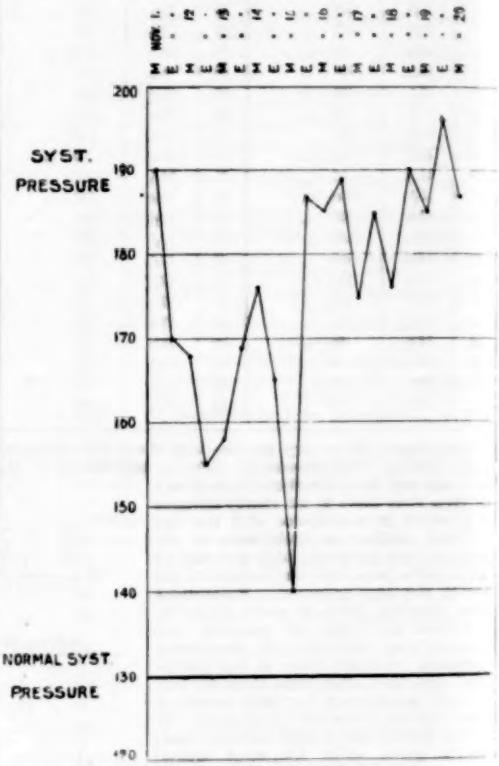
A man, aged 30 years; uræmia.

from 20 to 58 ounces daily; it was of specific gravity 1010 to 1015 and contained albumin from 0·15 to 0·175 per cent.; it contained blood and a variety of casts. Œdema was slight and confined to the lower trunk and legs. The headache gradually disappeared and the hæmaturia became less. The patient was discharged at his own request, the albuminuria being still present; the œdema had disappeared.

CASE 3 (*vide* Chart 5).—A lad, aged 17 years, was admitted for albuminuria and slight œdema of the legs. He had had scarlet fever three years previously and six months later his legs began to swell and had remained swollen ever since. The first sound at the apex was booming in character and the aortic second sound was accentuated; the vessels of the arms were more rigid than usual. He passed from 22 to 70 ounces of urine daily; it was of specific gravity 1005 to 1015 and contained albumin from 0·16 to 0·3 per cent. He was discharged feeling much better and the dropsy had disappeared.

CASE 4.—A man, aged 69 years, was admitted for sensory aphasia of some months' duration; there was no associated hemiplegia. Rigidity of the vessels was very marked; the

CHART 4.



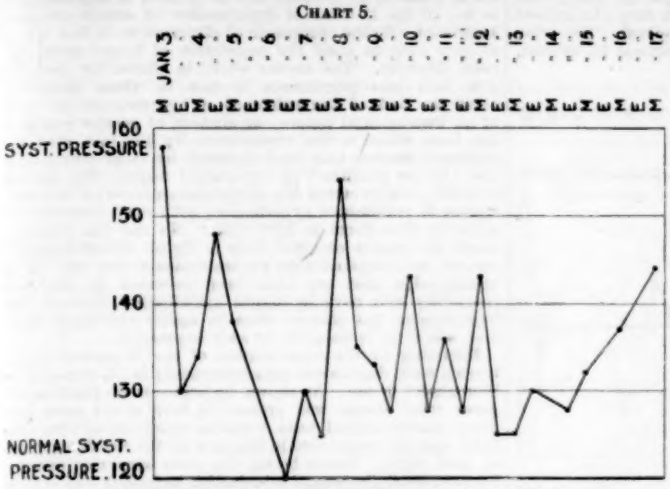
A man, aged 41 years; acute Bright's disease.

aortic second sound was accentuated and there was 0·1 per cent. of albumin in the urine; he passed from 26 to 53 ounces daily. The temperature was normal. His systolic blood pressure was constantly above 160 millimetres and reached as much as 184 millimetres. His only complaint was the aphasia and he was ultimately discharged.

CASE 5.—A man, aged 21 years, was admitted for severe dyspnœa and orthopnœa; there was œdema of the lower extremities which increased till death supervened. The amount of urine passed varied from 30 to 70 ounces and gradually was diminished to 6 or 12 ounces; it was of specific gravity from 1010 to 1020; the albumin varied from 0·4 to 1·5 per cent. The blood-vessels were not abnormally tortuous or hardened; there was no marked accentuation of the aortic second sound; the temperature was normal. The blood pressure varied from 125 to 144 millimetres and towards the end underwent rapid diminution, becoming subnormal; the dyspnœa intensified till death.

At the post-mortem examination the heart was found to be greatly enlarged and dilated, weighing 19 ounces. The kidneys gave evidence of being much tougher than usual; they weighed seven ounces each.

CHART 5.



A lad, aged 17 years; chronic Bright's disease (? contracted kidney).

CASE 6.—A man, aged 43 years, was admitted suffering from uræmia. He was dyspnœic and had a pulse-rate of from 23 to 34 beats per minute; the temperature was normal. The brachial blood-vessels were markedly thickened and tortuous. Only 20 ounces of urine were passed during the 25 hours he survived. It was loaded with albumin and casts were abundant. Five blood pressure observations showed 160, 140, 162, 163 millimetres, and the last taken at 12 midday was 160 millimetres. At 1 o'clock the pulse could not be felt and at 1 30 P.M. the patient died.

At the post-mortem examination the heart weighed 27 ounces; the left ventricle especially was greatly dilated and hypertrophied; the coronary arteries and aorta were atheromatous and the limb vessels were thickened. The kidneys weighed six ounces each; the capsule stripped off readily; the cortex was one-eighth of an inch in depth; the renal arteries were thickened and atheromatous.

CASE 7.—A man, aged 32 years, was admitted with uræmic dyspnœa and almost complete suppression of urine—only four ounces in two days. Albumin, blood, and casts were present in the urine and the patient was slightly œdematous in the lower extremities, had diarrhœa and sickness, and there was also some fever. The maximum impulse of the heart was in the fifth space, external to the nipple line; the second aortic sound was accentuated. Four observations were made on the blood pressure: Oct. 30th, evening, 187 millimetres; Oct. 31st, morning, 167 millimetres; evening, 162 millimetres; and Nov. 1st, at 10 A.M., 88 millimetres. Death occurred seven hours later.

At the post-mortem examination the kidneys were found to be red, granular, and contracted, and contained cysts; the cortex was greatly reduced; each kidney weighed four ounces; the renal vessels were narrowed. The heart weighed 14 ounces; the coronary arteries were fairly healthy; there was very little atheroma in the aorta or vessels of the limbs.

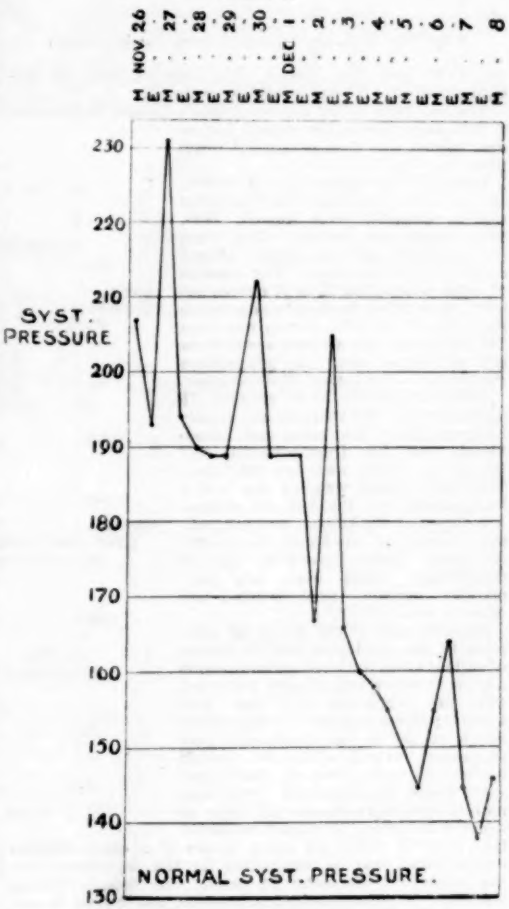
CASE 8 (*vide* Chart 6).—The patient was a man, aged 39 years. He was admitted for headache and sickness; he had also had puffiness of the feet for three weeks. The urine was albuminous but there was no sign of arterial disease and the heart revealed no signs of hypertrophy. The temperature was normal. The symptoms gradually abated and he was discharged. The chart shows the elevation and gradual fall of the blood pressure in acute Bright's disease.

CASE 9 (*vide* Chart 7).—A married woman, aged 41 years, was admitted for headache, œdema of the ankles, and albuminuria. There were no signs of cardio-vascular disease. There was some fever. The urine varied from 15 to 43 ounces daily; it was of specific gravity from 1013 to 1028. Albumin varied from 0·12 to 0·20 per cent. The blood pressure varied, falling during her stay in the hospital but rising above normal again prior to her discharge.

CASE 10 (*vide* Chart 8).—A man, aged 43 years, was admitted for pains in the chest and headache and for some dropsy in the feet. He had had a similar illness three years previously and had passed blood in his urine. There were no marked changes in the cardio-vascular system. The urine varied from 47 to 92 ounces; on three days it was, however, much less—10, 20, and 18 ounces respectively; it was of specific gravity from 1010 to 1027. On admission he was passing 0·33 per cent. of albumin but on his discharge there was only a trace; blood was passed on several occasions. There was a copious deposit of casts on admission. He developed severe uræmia with convulsions and was bled and infused. He left the hospital quite free from symptoms.

CASE 11 (*vide* Chart 9).—A man, aged 55 years, was admitted for extensive lead palsy and was found to have a blood pressure which ranged from 155 to 177 millimetres. This gradually subsided to normal. The arteries were very tortuous and the second aortic sound was accentuated; the maximum impulse of the heart was obscured by emphysema. The specific gravity of the urine was from 1015 to 1022; a slight trace of albumin was present. He was discharged relieved to a certain extent.

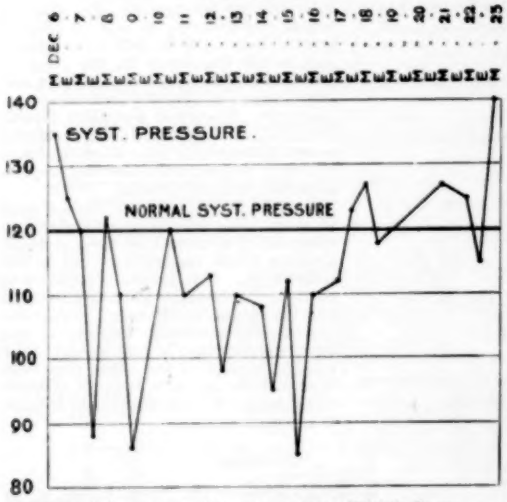
CHART 6.



A man, aged 39 years; acute Bright's disease.

CASE 12 (*vide* Chart 10).—A man, aged 36 years, was admitted for general debility and for wrist drop; he showed a lead-line. The heart was not hypertrophied. The urine was of specific gravity 1012 to 1020, normal in amount,

CHART 7.



A married woman, aged 41 years; subacute Bright's disease.

and no albumin was present. The arteries were not particularly rigid. He was discharged relieved.

The next case, one of chronic Bright's disease, is described at this stage, though the patient had at first normal and then subnormal blood pressure.

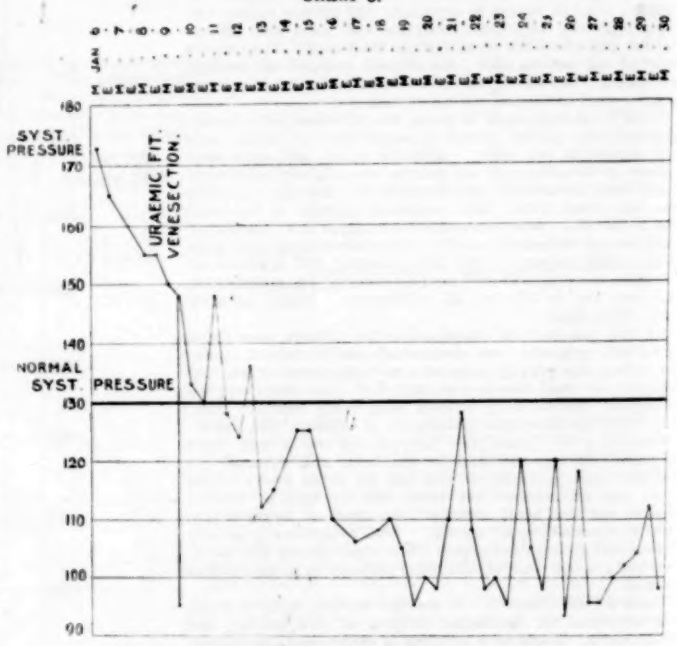
CASE 13 (*vide* Chart 11).—A widow, aged 49 years, had attended University College Hospital since August, 1903, with dropsy and ascites. The heart was enlarged and the aortic second sound was accentuated. The amount of urine varied from 25 to 77 ounces but a few days before death it became much reduced; the specific gravity was from 1015 to 1019; the albumin varied from 2·5 to 0·8 per cent. The temperature was normal. The patient died comatose.

Post mortem the heart weighed 18 ounces and the left ventricle was greatly hypertrophied; the aorta and blood-vessels were free from atheroma and the radial vessels were not thickened. The right kidney weighed five and a half ounces and the left six ounces. The cortex of the kidneys was reduced; the substance of the organs was tough; the renal vessels showed no sign of thickening. There were very well-marked chronic perihepatitis and chronic peritonitis.

Consideration of the above 68 cases leads to the conclusion that in disease of various kinds the blood pressure shows a great variation both in each individual and also comparing one case with another; 42 cases show a blood-pressure which so far as our knowledge goes at present is well within the normal limits. 14 cases, however, show pressures which are distinctly lower than normal and there remain 12 cases in which it is higher. It cannot be denied that possibly there are many causes of a quite different nature which may be responsible for the departures from the normal of the latter 26 cases. One definite feature stands out in great prominence, however, and it must be said has been noticed for many years past, so that it may seem out of place on an occasion like the present to call attention to it. Of the 12 cases of hypertension all except one were associated with the occurrence of albuminuria—a fact which at once calls to mind the association of hypertension and renal disorder. The excuse which is offered for bringing this fact into prominence is that in these particular cases the test of the existence of hypertension has been of an instrumental nature—an element of greater precision has been added to the observations by the fact that the increased tension had been detected by other means than the "tactus eruditus" of the trained finger. The earliest records (made by means of a sphygmomanometer) of the association of maintained hypertension with renal disease were made by Riva-Rocci in 1897-1898.[5] No one who has compared the results obtained from a digital test of increased tension as compared with an instrumental one can fail to acknowledge that we have been deceived in the past frequently and have by digital examination inferred that hypertension was present when in reality rigidity of vessel wall was alone responsible for such impression.

Returning to the consideration of the 12 cases of hypertension renal disease was present certainly in 11, it may have been absent in one. As shown by post-mortem examination grave renal disease was present in four of the cases and using purely clinical tests a similar condition of renal disorder may be conjectured in the case of the remaining seven or even eight. Remembering the close connexion existing between renal disease and intoxication by lead, it may even be thought highly probable that renal changes were present in Case 12, in whom hypertension was present but was not associated with albuminuria. It is possible that this raised pressure was an example of the effect of hard muscular work and that rest in bed had led to the fall. The occurrence of a high blood pressure persisting after muscular effort is, however, disbelieved by good observers. In the series of 12 cases of hypertension, owing to the precautions taken, the influence of so-called "functional" causes of hypertension may be excluded; so, also, the influence of drugs may be ruled out of consideration and in no cases were there reasons to believe that cerebral compression was operative as a causative factor.

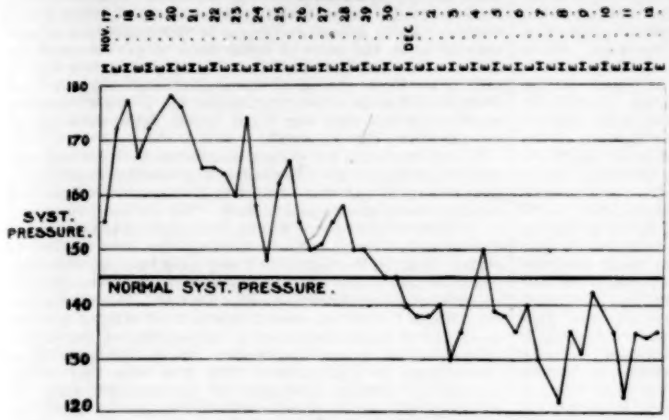
CHART 8.



A man, aged 43 years; chronic Bright's disease; ? exacerbation.

[5] Riva-Rocci: La Tecnica della Sfigmomanometria, Gazzetta Medica di Torino, 1897, Nos. 9 and 10.

CHART 9.



A man, aged 55 years; lead palsy.

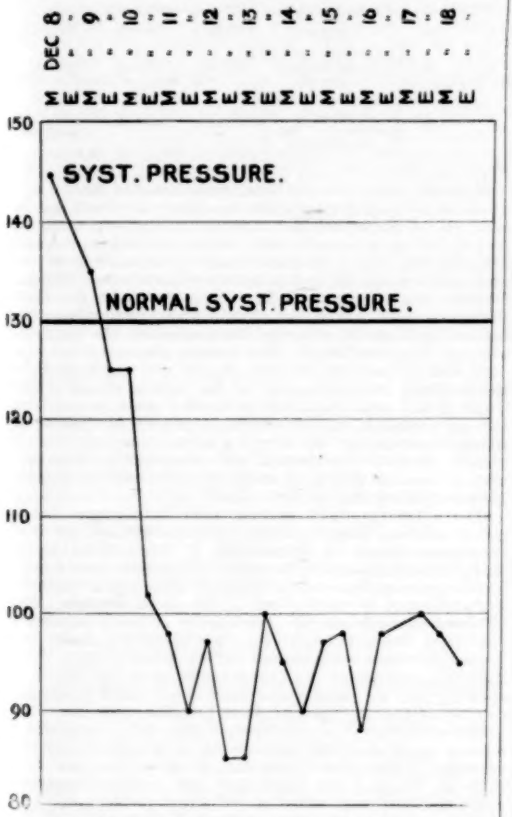
endeavoured to find a cause for cardiac hypertrophy and especially left-sided cardiac hypertrophy, as shown at the bedside or in the post-mortem room. Thanks to the sphygmomanometer we can certainly detect the accompaniment of, or as we have long believed, a phenomenon antecedent to, cardiac hypertrophy—viz., exalted blood pressure when clinical examination from various reasons is unable to detect any cardiac hypertrophy. Bright was able to state that cardiac hypertrophy may occur without any valvular disease and without any thickening of the aorta. The frequency of left-sided hypertrophy at once suggested that there was some possible local cause for the phenomenon. The blood was so altered that it acted as a direct stimulus on the heart itself, so he says, or it influenced the fine capillary vessels in such a way that the heart was compelled to hypertrophy in order to drive the blood through the contracted vessels. Within limits the cardiac hypertrophy and kidney disease were commensurate. This altered character of the blood was not accepted by many observers as a cause of hypertrophy and it was even suggested that it was possible for the cardiac hypertrophy to be a cause of the renal disease. The arterial disease was considered by others to be the cause both of the renal disease and of cardiac change.

THE CREDITED CAUSES OF HYPERTENSION.

The problem, therefore, resolves itself into a solution of this difficult question, How is hypertension, such as is shown by the above 12 cases, to be explained? The necessity for finding an explanation is patent to everyone and has for years past been one of the unsolved riddles of pathology. It has, no doubt, been approached in different ways, for pathologists in the past attacked a different sort of problem—they

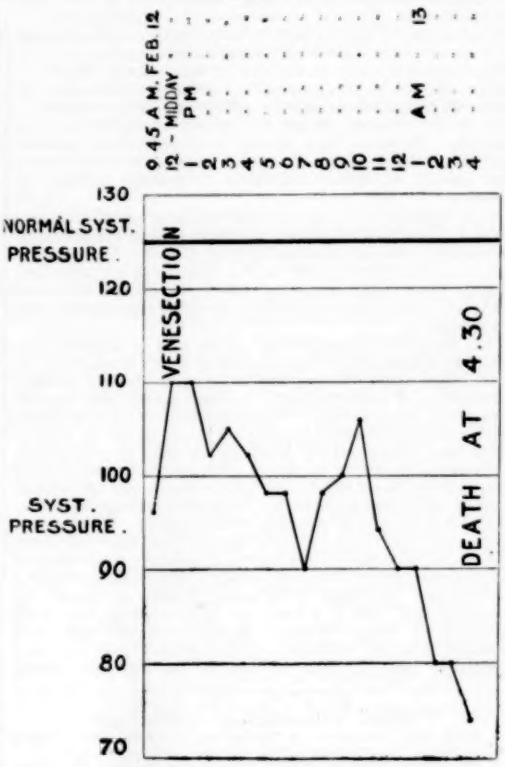
With regard to cardiac hypertrophy occurring in co nexion with renal disease, it is acknowledged that it is the left ventricle which is enlarged; if the right ventricle is enlarged then some other factor is probably responsible for it. Experiments have been carried out in order to show whether

CHART 10.



A man, aged 36 years; debility; plumbism.

CHART 11.



A woman, aged 49 years; chronic Bright's disease.

the kidney disease is primary and the cardiac hypertrophy and vascular disease secondary or whether the reverse is the case. Rosenstein [6] was able to show that the removal of one kidney in rabbits and dogs produced no rise of pressure in the aortic system and no hypertrophy of the heart. Other observers have confirmed these results entirely, whilst others have found that in some cases at least cardiac hypertrophy occurs. De Dominicis, who found hypertrophy of the heart after ligature of one renal artery, attributes the cardiac hypertrophy not to the fact of the ligature of the renal vessels on one side but to some change in the blood. Traube considered the cardiac hypertrophy to be due to the increased resistance produced by the obliteration of numerous vessels in the contracted kidney and by a diminished output of water. Both these explanations fail, for it is known that the average blood pressure in the aorta is not permanently raised by ligaturing the two renal arteries, and in contracted kidney the output of water is not reduced but even increased. Bamberger has attributed the cardiac hypertrophy to an attempt on the part of the heart to correct a condition of hydræmic plethora, but this latter has not been shown to exist in such cases. The late Dr. Fagge explained the cardiac hypertrophy by a modification of a view put forward by Cohnheim. So little healthy kidney substance is left that the heart is obliged to drive all the blood through a much smaller filter-bed and as a result becomes hypertrophied. Israel on the strength of his findings that rabbits fed with urea developed cardiac hypertrophy concludes that retained products are the cause but the further observation made by him that the kidneys were also enlarged makes it difficult to explain cardiac hypertrophy in contracted kidneys. It is known that contracted kidneys are not always associated with cardiac hypertrophy, so that merely mechanical explanations are not satisfactory, and the view originally propounded by Bright that there is a stimulating substance circulating in the system which acts upon the circulatory system is favoured by many writers. Senator [7] suggests that the constituents of the urine cause by retention an increase of pressure and that all these substances acting together may possibly be a complete explanation of the increase of pressure. It may, however, be said in answer to this that the urine removed immediately from an animal's bladder and injected into its own vascular system produces not a pressor but a very marked depressor effect, and yet in this case all the urinary constituents are acting in unison which rather suggests that this retention of urinary constituents is not the cause of cardio-vascular changes. Moreover, it is known on experimental grounds that the output of urea may be greatly *increased* when the amount of kidney substance is greatly reduced by ablation.*

It is possible, however, for the cause of cardio-vascular changes to be found in other directions than in the influence of retained products occurring in renal disease. The observations of Hasenfeld [9] point to the possibility of left-sided cardiac hypertrophy occurring only when there is advanced disease of the splanchnic arteries or of the aorta above the diaphragm.

The use of the sphygmometer shows that it is possible to establish clinically a group of cases in which there is maintained high blood pressure but little or no signs of arterio-sclerosis or of renal disease: cardiac hypertrophy may be present to some extent. This group constitutes those cases of latent angio-sclerosis described by von Basch or of pre-sclerosis as described by Huchard. Useful as may be this recognition it cannot be said for certain that renal disease is absent in these cases; the absence of signs of arterial disease, of cardiac hypertrophy, or of albuminuria is not conclusive evidence that the kidneys are healthy. I venture to insist upon this point, for the evidence drawn from the above list of clinical cases of raised arterial pressure tends to show with one exception that all the cases of hypertension observed by me are associated with renal disease as shown by albumin, &c. The fact that one case (Case 12, Chart 10) revealed no signs of renal disease and yet had high pressure may be explained on the ground that he was a labouring man and that the rest in bed had very shortly been followed by a fall to normal; as already stated the view that effort is capable of producing maintained arterial tension has been denied, so that this explanation of the case is not assured. Early sclerotic changes in the splanchnic vessels are said to be the cause of these cases of pre-sclerosis, but the fact that this patient with ordinary rest in bed and no special treatment got rid of his high pressure suggests that there is still some other explanation for a rise of pressure which, as in this case, was found to fall, not at once, but by the end of two days to normal.

To sum up, there is a general admission that the explanation of increased arterial tension and of cardiac hypertrophy independent of valvular disease and obstruction of the pulmonary circuit is not satisfactory. We do not possess any clear ideas of the nature, origin, and mode of action of the hypothetical irritant substance which has been invoked to explain hypertension and which may have been the operative factor in Case 12 above described, as well as in the cases of hypertension associated with albuminuria. During the last few months I have set myself the task of making a direct appeal to biological tests for an explanation of the various differences of tension as shown by sphygmomanometer observations at the bedside. The idea was that it was possible for certain substances to be extracted from the organs in different diseases, which acting on the circulation of the patient would be capable of producing those rises or falls of blood pressure which constitute the abnormalities of the above list of 68 cases. For this purpose four cases were selected in the wards, in whom there were differences of blood pressure (Table III.).

TABLE III.

Case.	Age in years.	Disease.	Blood pressure.	Effect on experimental intravenous injection.	
				Before.	After.
1	21	Lymphadenoma.	117 mm.	168 mm.	176 mm.
2	78	Empyema.	127 mm.	172 mm.	160 mm.
3	80+	Uræmic hemiplegia, albuminuria. &c.	165 mm.	164 mm.	160 mm.
4	69	Aphasia without paralysis of arm or leg; albuminuria.	175 mm.	160 mm.	156 mm.

20 cubic centimetres of blood were removed from a vein of the forearm by puncture with a needle; the blood was at once placed in ice and within three hours after preparation by grinding up with sand, when clotting had taken place and after diluting with 1 in 3 sterilised salt solution (0·86 per cent.), it was injected in four cubic centimetre doses into the femoral vein of a cat weighing 3100 grammes; the blood pressure was taken from the carotid artery; anæsthesia was secured by means of ether and the respiration was spontaneous; the vagi were intact. The changes above recorded were very brief and, as will be seen, do not give any support to the view that in hypertension of the arterial system (Cases 3 and 4) such small quantities of blood of patients with high tension contain a pressor substance capable of exerting its influence on the cat. In Case 1, who was free from arterial disease, cardiac hypertrophy, and albuminuria, there was even a rise and the same result was obtained in another animal injected with the same blood.

Observations on tissue extracts and their pressor or depressor effects.—Since the discovery by Schäfer and Oliver of the pressor effects to be obtained by preparations of the medullary substance of the suprarenal gland, considerable work has been done in the study of other animal extracts with reference to their effect on the blood pressure. One other substance stands out prominently as being capable of producing these changes—viz., the pituitary body, the pressor substance being present in the posterior lobe. Considerable speculation has been made with the object of showing that the suprarenal extract or adrenalin is possibly capable of exerting during life an influence upon the blood pressure—indeed, that its special duty is to maintain a normal level of blood pressure by a process of internal secretion. The great objection to this view has been that the blood of the suprarenal vein does not appear to exert much, if any, effect on the blood pressure and that ablation of the suprarenal body and obstruction of the

[6] Rosenstein: Virchow's Archiv, 1871, Band liii., S. 141.
[7] Senator: Die Erkrankungen der Nieren, 1902.
* Dr. J. Rose Bradford: The Goulstonian Lectures, THE LANCET, March 19th (p. 765) and 26th (p. 843), and April 2nd (p. 916), 1898.
[9] Hasenfeld: Deutsches Archiv für Klinische Medicin, 1897, Band lix., S. 197.

suprarenal vein do not much influence the blood pressure. Szymonowicz[10] asserts that he has seen, several hours after removal of the suprarenal bodies, a fall of the blood pressure. It is, of course, difficult to say how much of this effect was due to other causes than loss of suprarenal secretion from the circulation. Lewandowsky[11] has found normal blood pressure 30 minutes after ligature of the suprarenal vein. Camus and Gley[12] failed to establish any rise of blood pressure after closure of the suprarenal vein or rise after opening it and when they injected the blood from the suprarenal vein of one animal into the circulation of another they found a rise only if the injection was quickly made and was entirely absent when such small quantities are injected as are likely to reach the vena cava normally through the suprarenal vein. More recently Blum[13] has made further experiments and agrees that suprarenal blood gives no rise of pressure. The confusion caused by the different results has been attacked by Ehrmann[14] who, abandoning the blood pressure effect of suprarenal substance as a guide to its presence in the blood, has made use of a physiological test developed by Melzer.[15] Melzer states that the effect of adrenalin as a dilator of the pupil is a more delicate test than the effect on the blood pressure and finds that the pupil is dilated on the application of adrenalin in such dilution that blood pressure effects cannot be secured. By using the pupil reaction as a guide Ehrmann was able to show that the blood of the suprarenal vein contains adrenalin. The question whether the suprarenal gland is really an organ in which adrenalin is manufactured or whether it merely acts as a magazine for the storage of substances elaborated elsewhere has been approached by Abelous, Soulié, and Tougan.[16] A pulp was made of suprarenal glands by rubbing them down in normal saline solution (1 in 2), chloroform was added to prevent bacterial growth, and one portion was exposed to a temperature of 0° C. and another to 40° C. Adrenalin was estimated colorimetrically by means of iodine. The pulp kept at 40° C. contained more adrenalin than that kept at 0° C. With care they found it possible to separate medulla from cortex in the suprarenal gland of sheep. The cortex was pulped and one part exposed to 0° C. and an equal part to 40° C. That kept at 40° C. was found to contain more adrenalin than the other. These workers therefore conclude that adrenalin is formed in the cortex and accumulates in the medulla, supporting the view of an internal secretion.

Accepting the position that adrenalin is diverted into the circulation and is therefore able to exert its action on blood-vessels, the stimulation taking place at the junction of muscle and nerve,[17] the question may well be raised as to whether there is any evidence that the increased vascular tension met with in certain clinical cases can be associated with an increased discharge of adrenalin into the circulation. Aubertin and Ambard[18] state that they have found that contracted kidney, enhanced arterial tension, and arterio-sclerosis go hand-in-hand with hyperplasia of the cortical substance of the suprarenal glands. They based their opinion on the post-mortem examination of eight cases in which nephritis and raised pressure had been present, and they controlled their results by examination of 19 other cases, seven of nephritis without hypertension and 12 cases of various disorders not associated with hypertension. In four of the eight cases the cortex of the suprarenal gland was hyperplasic and the medullary substance reduced and adenomata were present three times in the suprarenals. Aubertin and Ambard conclude that arterio-sclerosis is not the result of the hyperplasia of the cortical substance, but that they both constitute a reaction to some poison which is as an association or result of renal disease not properly excreted. Their observations also confirm the view that renal hypertension is not due to an excessive internal secretion of the suprarenal gland.

There is no information on the possible association between hypertrophy of the posterior lobe of the pituitary body and hypertension. These two known sources of a pressor substance, suprarenal body and pituitary body, cannot be said to be the cause of the hypertension met with in renal disease. The perusal of a paper by Swale Vincent and Sheen[19] on the effect of intravenous injections of extracts of animal tissues has aroused my interest in connexion with the subject of auto-intoxication, as I have defined it for the purpose of these lectures, because the writers appeared to have procured some evidence which favoured the idea that when once the parenchyma of any particular organ as a result of various pathological processes reached the circulation it was to be expected that changes would take place in the degree of vascular tension. They made various preparations of organs of animals, including dogs', cats', and rabbits' tissues, and the procedure adopted for making "proteid extract" was the one followed in experiments to be presently mentioned. A weighed quantity of fresh moist tissue was ground up with sand and to it were added three times as many cubic centimetres of saline solution as there were grammes of the tissue; the mixture was filtered and always used at once.

Proteid extracts of brain tissue.—They found that proteid extracts caused a rise, slight or marked, in five experiments. The rise pictured shows a persistance for at least 92 beats of the heart; in two experiments a fall occurred and in one injected with rabbit's brain the fall was a very pronounced one.

Proteid extracts of striped muscle tissue.—These usually gave a double effect, a short rise lasting presumably about four seconds, and a fall for more than 12 seconds. A pure rise was noticed once but never as marked as in the case of nervous tissue.

Proteid extracts of kidney.—They noted most frequently and characteristically the double effect, a rise and a fall. The next most frequent effect to occur was a pure rise; on one occasion a fall occurred and on another no change occurred whatever. The rise figured by these workers followed just after the injection and lasted about 12 heart beats. They found that, speaking generally, there is in the case of kidney extracts, even more than with those of muscle or nervous tissue, distinct evidence of a pressor effect.

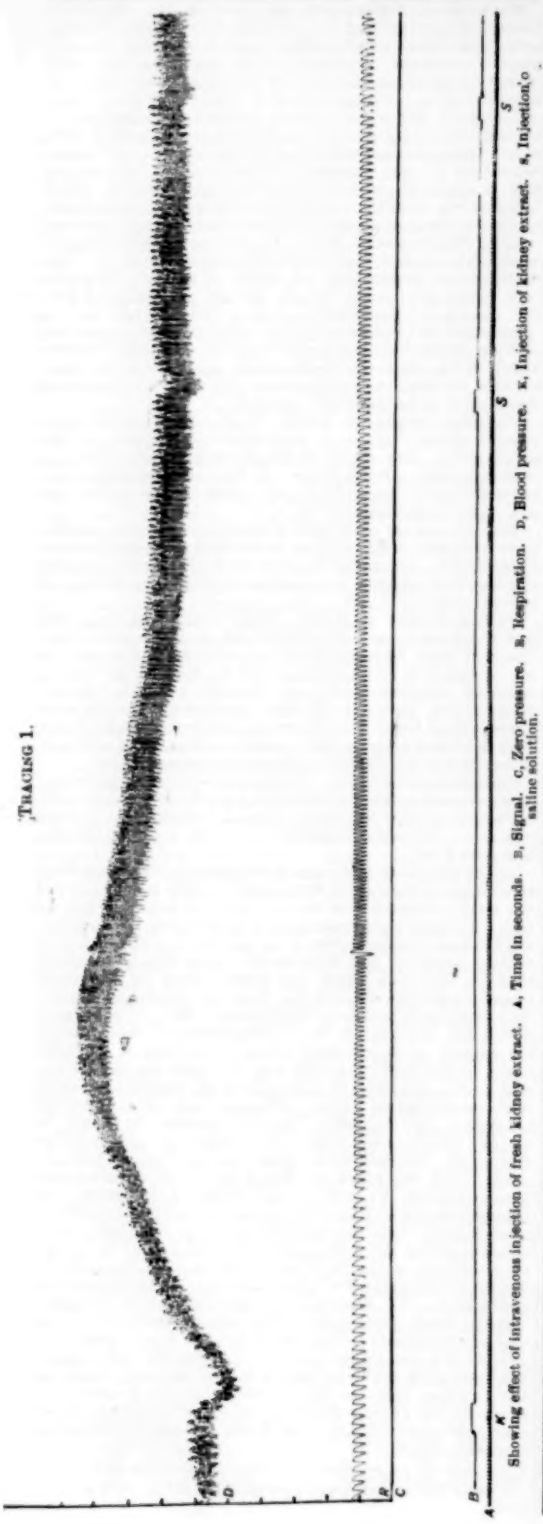
Proteid extract of liver.—In the one experiment performed by these workers the proteid extract produced a distinct fall.

Proteid extract of spleen.—A small but distinct fall was produced. A proteid extract of the intestine was tested once and gave a fall.

In the perusal of this paper one is struck by the observation that these workers have frequently to refer to the fact that the results obtained were not uniform and notably is this the case with their observations on pressor effects, so that they say the pressor effect seems to be less marked and of a more fleeting character and consequently more difficult to obtain than the depressor effect; the pressor effect may be easily missed unless the extracts are made in various ways and a long series of experiments undertaken. Strength of extract, dose given, and stage in the experiment are all factors which are capable of determining whether a pressor or depressor effect is produced; the best way to obtain the pressor substance from any tissue is to extract the absolutely fresh tissue with physiological saline solution and after thorough trituration and allowing the preparation to stand for a few minutes, to filter. A pressor or mixed effect should be obtained from these preparations. They conclude "that all glandular tissues and probably all animal tissues contain a pressor and depressor substance, the former being usually extracted by saline solution at ordinary temperatures, while the latter is extracted by boiling saline solution, which either destroys (wholly or partly) the pressor substance or masks its effect by producing more of the depressor substance." "The falls and rise of pressure are produced by vaso-dilatation or vaso-constriction of various vascular areas of the body." The writers were unable to say that any particular extract had a specific local effect referable to the homologous organ. A depressor substance is discoverable in the liver, spleen, testes, pancreas, ovary, and lung. Other observers have found a depressor effect to be given by the thyroid gland, thymus, and pituitary bodies; even suprarenal extract when given in small doses exerts a depressor effect.

[10] Szymonowicz: Pflüger's Archiv, 1896, Band lxiv., S. 97.
[11] Lewandowsky: Zeitschrift für Klinische Medicin, 1899, Band xxxvii., S. 535.
[12] Camus and Gley: Comptes Rendus de la Société de Biologie, 1900, p. 210.
[13] Blum: Pflüger's Archiv, 1900, Band cv., S. 625.
[14] Ehrmann: Archiv für Experimentelle Pathologie und Pharmakologie, 1905, Band liii., S. 97.
[15] Melzer: Zentralblatt für Physiologie, 1904, Band xviii., S 317.
[16] Abelous, Soulié, and Tougan: Comptes Rendus de la Société de Biologie, 1905, p. 533.
[17] Elliott: The Action of Adrenalin, Journal of Physiology, 1905, vol. xxxii., p. 380.
[18] Aubertin and Ambard: Bulletins et Mémoires de la Société Médicale des Hôpitaux, 1904, p. 175.
[19] Swale Vincent and Sheen, Journal of Physiology, 1903, vol. xxix., p. 242.

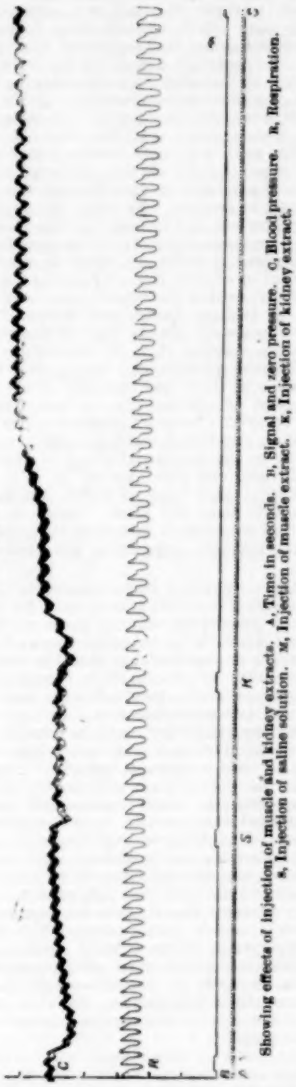
TRACING 1.



Showing effect of intravenous injection of fresh kidney extract. A, Time in seconds. B, Signal. C, Zero pressure. R, Respiration. D, Blood pressure. K, Injection of kidney extract. S, Injection of saline solution.

In connexion with the subject of hypertension Swale Vincent and Sheen's results are most important in those particulars in which they are able to state that they have established a pressor effect of tissues when injected into the circulation. My own efforts at attempting to discover variations in the effects following the injection of tissues in various pathological conditions were followed merely by the observation that in practically all cases (17 in number) there was but one effect—namely, a depressor one; occasionally the injection of a preparation would produce a brief rise much as does the simple injection of saline solution in some cases, though as a rule this latter solution generally causes a slight fall. However, a careful re-perusal of Swale Vincent and Sheen's paper impressed me that the organs removed from individuals dying from different diseases were not fresh tissues, although keeping the bodies in an ice-chamber had prevented their putrefaction. Moreover, suspicions were aroused that possibly post-mortem softening might have so affected the reactions of the fresh tissues that supposing any pressor substances had been present in the organs of the patients who had died such active agent would have disappeared. At this stage I was very materially helped by Dr.

TRACING 2.



Showing effects of injection of muscle and kidney extracts. A, Time in seconds. B, Signal and zero pressure. C, Blood pressure. R, Respiration. S, Injection of saline solution. M, Injection of muscle extract. K, Injection of kidney extract.

Schryver, who pointed out to me a certain period subsequent to the removal of tissues from animals in which the tissues do not undergo chemical change. An appeal, therefore, was made to the effects of fresh tissues removed from a cat and after preparation injected into another.

Mode of preparation.—An animal was killed under an anæsthetic and with aseptic precautions the liver, the kidneys, the brain, the spleen, &c., were removed. The kidneys were stripped of their capsules, then split, and as much as possible of the pelvis and the neighbouring vessels were removed; the bile duct and gall-bladder were cut away from the liver and all the organs were washed in sterile saline solution. So much of each organ was weighed out in 10° C. The anæsthetic used was ether in every case and care was taken without the aid of morphine or curari to secure deep anæsthesia. The ether was administered through a cannula inserted in the trachea in the latter part of each experiment. The blood pressure was recorded from the right carotid artery. A cannula was tied into the right femoral vein for the purpose of injecting the extracts.

The first series of experiments carried out in the above way included those animals in which several different tissue extracts were injected into the same animal; the order of injection is given in Table IV.; the series consisted of eight experiments carried out on eight animals—Nos. 12, 22, 23, 25, 29, 31, 32, and 33 A. No records of the experiments

TABLE IV.—SHOWING PRESSOR OR DEPRESSOR EFFECTS FOLLOWING INTRAVENOUS INJECTIONS OF EXTRACTS OF FRESH ORGANS.

No. of experiment.	Date.	Weight of kymograph animal in grammes.	Weight of animal from which organs were removed.	Anæsthetic, &c.	Nature of extract.	Amount and order of injection of extract of different organs.	Average maximum pressure immediately before injection.	Effect on pressure. Rise (+) or fall (−) in millimetres of mercury.	Duration of observation of rise or fall.	Remarks.
						c.cm.	mm.			
22	Jan. 23rd, 1906.	3625	—	Ether. Spontaneous respiration.	Saline emulsion 1 in 3. Used within 4 hours of removal.	Spleen 6	128	+ 18·0	45″	*Between the first and second injections of liver extract suprarenal extract had been injected.
						Muscle 6	122	− 38·0	4′ 28″	
						Kidney 6	122	+ 72·0	7′ 13″ at least.	
						Liver 6	144	− 16·0	2′ 50″ ,,	
						Liver* 6	180	− 14·0	45″ ,,	
						Kidney 6	168	+ 24·0	4′ 35″ ,,	
						Spleen 6	188	+ 2·0	10″ ,,	
25	Jan. 25th, 1906.	—	—		Saline emulsion, 1 in 3. Used within 12 hours of removal. Kept at 8° C.	Spleen 6	140	− 5·0	4″	
						Liver 6	142	− 9·0	55″ at least.	
						Blood 6	136	+ 3·0	4′ 3″ ,,	
						Kidney* 6	136	+ 30·0	30″ ,,	*Kidney rise preceded by fall of 22 mm.
						Liver 6	166	− 7·0	4′ 30″ at least.	
						Kidney* 6	144	+ 36·0	30″ ,,	*Kidney rise preceded by fall of 32 mm.
						Liver 6	176	− 6·0	30″ ,,	
						Kidney* 6	170	+ 10·0	5 ,,	*Kidney rise preceded by fall of 30 mm.
						Animal's own urine 6	178	− 78·0	2′ 50″ ,,	
29	Jan. 31st, 1906.	3600	2716	,, ,,	Saline emulsion, 1 in 3. Used 2 hours after removal.	Liver 6	166	+ 6·0	30″	*A fall was noticed immediately after injection of kidney extract, which was greater in the case of the healthy than in the scarred organ, probably owing to the presence of more urine.
						Normal kidney*... 6 (19·25 grammes.)	160	+ 6·0	1′ 50″	
						Scarred kidney ... 6 (8·2 grammes.)	154	+ 24·0	3′ 50″ at least.	
						Normal kidney ... 6	178	+ 2·0	15″	
						Scarred kidney ... 6	162	+ 10·0	2′ 30″ at least.	
						Liver 6	162	− 22·0	45″	
						Normal kidney ... 6	130	+ 14·0	2′ at least.	
						Scarred kidney ... 6	136	+ 10·0	40″	
31	Feb. 2nd, 1906.	3580	2660	,, ,,	Saline emulsion, 1 in 3. Used 2 to 3 hours after removal.	Muscle 6	104	− 4·0	1′ 5″	—
						Kidney 6	100	+ 30·0	5′ 50″	
						Kidney 6	130	− 24·0	55″	
						Liver 6	132	− 8·0	1′ 30″	
						Brain 6	122	+ 2·0	5″	
32	Feb. 6th, 1906.	2760	2560	,, ,,	Saline emulsion, 1 in 3. Used 2 to 3 hours after removal.	Liver 6	184	− 8·0	10″	*A fourth injection of 12 cubic centimetres of kidney extract gave only a slight rise and a fifth of 6 cubic centimetres none at all.
						Brain 5	174	− 11·0	20″	
						Kidney 6	160	+ 40·0	13′ 40″ at least.	
						Brain 6	192	− 18·0	50″	
						Brain 6	184	− 11·0	20″	
						Kidney 6	158	+ 16·0	7′ 30″ at least.	
						Liver 6	162	− 6·0	20″	
						Spleen 4	156	+ 3·0	30″	
						Kidney* 6	130	+ 16·0	1′ 30″ at least.	
33A	Feb. 8th, 1906.	3510	3200	,, ,,	Saline emulsion, 1 in 3, used within 2 to 3 hours.	Spleen 4	162	− 6·0	1-5″	—
						Brain 6	160	− 12·0	25″	
						Kidney 3	146	+ 22·0	3′ 40″ at least.	

In Experiment 29 reference is made to the effects of normal kidney and to sclerosed kidney. This interesting condition is comparable to the specimens referred to in the beginning of the lecture in which one kidney was found to be atrophied as a result of atheroma of the renal artery, the other kidney being much larger than normal. In the case of the cat, the renal artery of the scarred organ was found to be much smaller than that of the healthy kidney.

grammes and to it were added three times the number of cubic centimetres of sterilised salt solution; this was then ground up with a small quantity of white sand which had been sterilised and washed in saline solution. After the preparation was thoroughly macerated it was pressed through fine meshed sieves, thus completing the disintegration of the organ. The preparation was then centrifugalised and filtered through coarse filter paper. The filtrate now took the form of a fine emulsion and showed microscopically many fine granules of varying size. The preparations were injected into other cats, as a rule from within two to four hours, and in one case not for 12 hours, the preparation having been kept in an ice-box at from 8° to

Nos. 12 and 23 are given; No. 12 was a curious example in which the animal failed to show any reaction—pressor or depressor—on the injection of any tissue or of saline solution alone. No. 23 was an example of an animal in whom the respiration was so irregular, quite apart from injection of material, that no attempt was made to carry out complete experiments. There are therefore six experiments left for consideration. The effects of injection of different organs upon the blood pressure have been tabulated and the analysis of the spleen and muscle effects shows that injection of spleen gave a rise of pressure on three occasions of 18 millimetres, two millimetres, and three millimetres, lasting respectively 45 seconds, 10 seconds, and 30 seconds; a fall occurred in

two cases of four millimetres, lasting from one to two seconds, and of 6 millimetres, lasting four seconds. Injection of muscle extract was practised twice; in one there was a marked fall of 38 millimetres lasting four minutes 28 seconds, and in the other a fall of only four millimetres, lasting one minute 55 seconds. The observations on the kidney, the liver, and the brain were more numerous and are tabulated according to whether they caused a rise or fall (Tables V. and VI.).

TABLE V.—*Showing Rise of Pressure after Injection of Various Extracts.*

Experiment.	Maximum.	Duration.	Experiment.	Maximum.	Duration.
	Kidney.			*Kidney (continued).*	
22	72 mm.	7' 13"	32	40 mm.	13' 40"
	24 ,,	4' 35"		16 ,,	7' 30"
25	30 ,,	35"		16 ,,	1' 30"
	36 ,,	30"	33A	22 ,,	3' 40"
	10 ,,	5		4 ,,	1' 40"
29	6 ,,	1' 50"		1 ,,	25"
	24 ,,	3' 5"		*Liver.*	
	2 ,,	15"	29	6 mm.	30"
	10 ,,	2' 30"		*Brain.*	
	14 ,,	2' 0"	31	2 mm.	Few seconds.
	10 ,,	40"			
31	30 ,,	5' 50"			

TABLE VI.—*Showing Fall of Pressure after Injecting Various Extracts.*

Experiment.	Maximum.	Duration.	Experiment.	Maximum.	Duration.
	Kidney.			*Liver (continued).*	
31	24 mm.	55"	32	8 mm.	10"
	Liver.			6 ,,	25"
22	16 mm.	2' 50"		8 ,,	1' 30"
	14 ,,	45"		*Brain.*	
25	9 ,,	55"			
	7 ,,	4' 30"	32	11 mm.	25"
	6 ,,	30"		13 ,,	50"
29	6 ,,	30"		11 ,,	20"
	22 ,,	45"	33A	12 ,,	25"

In Tables V. and VI. the heading "Maximum" means the highest or lowest maximum point the blood pressure reached respectively during the interval in which rise or fall occurred. The duration in Table IV. is qualified in many cases by the words "at least" because it was necessary in these cases to stop the kymograph and so economise tracing paper in order to get the whole series on one tracing.

It is obvious that though other organs than the kidney occasionally show a rise of pressure on injection, yet the rise is small and of short duration; whereas the kidney effect of a rise, though varying within considerable limits, is a striking feature, and the same may be said of the duration in which such rise takes place; no other organ has been noticed to have such an effect so frequently. The liver and brain show a much greater tendency to cause a fall of blood pressure and even then such fall is generally of very brief duration. One point to which it is necessary to draw attention is that in none of these experiments was the kidney extract injected first; the injection always succeeded that of some other organ and it may be objected that it is possible that the rise of pressure following the injection of renal extract is due to some interaction of renal extract with some previous extract. Moreover, it may be thought that the renal extract is of a different physical character and likely to cause a rise of pressure from some mechanical effect dependent upon the granules contained in the emulsion. As will be seen later, there is no reason to believe that either of these objections holds good. It is to be observed once again that these animals were simply under the influence of ether; this was so carefully administered that the respiration was maintained regularly. In another experiment, 33B, with ether anæsthesia and artificial respiration, the vagi were cut; an injection of renal extract then produced the exceedingly small rise of only four or one millimetre, lasting one minute 40 seconds and 25 seconds respectively. So far as this one experiment is concerned it must be stated that the second injection of an extract has on other occasions shown a less marked reaction than the first one. The slight rise, such as it is, merely suggests that the rise of pressure on injecting renal extract is due to a peripheral effect whereby the arterial pressure is raised.

A CASE OF

PRIMARY INTESTINAL ANTHRAX IN MAN: SEPTICÆMIA; HÆMORRHAGIC LEPTO-MENINGITIS.[1]

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THE following case of anthrax is of interest from several points of view. It appears to be an example of that form of the disease which is the most common in animals but the rarest in man—viz., that in which infection occurs through the alimentary canal. The infection was extremely virulent and the course of the disease was correspondingly rapid, the whole known duration of the illness being 20 hours. There was nothing in connexion with the occupation of the patient to suggest anthrax and the symptoms gave no clue to the nature of the disease. Until the hæmorrhagic condition of the meninges was revealed at the post-mortem examination anthrax was never suspected. Moreover, the case appears to have been completely isolated and all investigations subsequently undertaken have failed either to reveal the source of the infection or to bring to light other cases of the disease in man or animals in the neighbourhood of the present one.

Clinical history by Dr. ROBERT BELL.—A man, aged 36 years, was admitted to Ward 12 of the Western Infirmary, Glasgow, at 11.15 P.M. on Jan. 31st, 1905, in a semi-conscious and delirious state. According to the account of his friends he was to all appearance in perfect health until the morning of the day of his admission, when he rose with the intention of going to work but returned to bed because he felt giddy and had a headache. The headache he described as a pain beginning behind and shooting over to the forehead, while occasionally he complained of pain in the region of his right ear and right eye. He remained in bed all day and took a little light food, and he appeared to be not at all seriously ill. About 7 P.M., however, his friends heard him give a cry and went to the bedroom, where they found him out of bed, very restless and excited, and talking in an unintelligible manner. He would not reply to any questions but would rise suddenly, go and sit down by the fire, holding his head and moaning, and then as suddenly he would jump into his bed again and would lie huddled up. This restlessness and excitement he showed in an increasing degree up to the time of his admission. The patient worked at the making of white lead in a paint manufactory. The people with whom he lodged had known him for five years and he had been an exceptionally strong and healthy man. They stated that he had not been a heavy drinker but he occasionally had a bout of two or three days' duration, after which he would be steady for some weeks. When seen in the receiving room at 11.5 P.M. he was being held in a chair by three or four men so violent were his struggles. On admission to Ward 12 he seemed unconscious but if spoken to loudly he opened his eyes and looked about. If left to himself he lay huddled up with his legs and knees drawn tightly up and flexed upon the abdomen, his arms thrown across the chest, and his head bent with the chin on the sternum. But if any attempt were made to move him or rouse him he struggled violently and occasionally gave a low sighing moan. The pupils were moderately dilated and reacted sluggishly to light; they were equal. The teeth were tightly closed and could not be opened. On the gums there seemed to be a suspicion of a blue line. Respiration was easy and quiet, 24 per minute. The pulse was small, wiry, 90 per minute. The temperature was 98·4° F.

[1] Communicated to the Glasgow Pathological and Clinical Society in March, 1905.

Physical examination was difficult owing to the struggles of the patient on any attempt being made to move him. The knee-jerks could not be elicited and neither paralysis nor paresis was anywhere discovered. Examination of the lungs, the heart, and the abdomen revealed little except that he winced when comparatively slight pressure was made over the epigastrium and in the region of the umbilicus. There was no abdominal distension. No discharge was present from the ears or nose and there was no sign of conjunctival hæmorrhage. There was no evidence of injury of any kind. At 3 P.M. on Feb. 1st he began to have convulsions. The face was first thrown into contortions—both sides apparently equally. These then passed to the left arm, then to the left leg, and rapidly became general. In the convulsions the pupils became somewhat dilated. The urine drawn off by catheter was of specific gravity 1042 and contained sugar—a distinct reaction being obtained with Fehling's solution—and a considerable quantity of albumin. Four convulsive seizures occurred before death, the interval between successive seizures being short. In the last the pupils became contracted and fixed and the patient died immediately the convulsion ceased at 3.30 P.M.

Post-mortem examination.—This was made 31 hours after death. The body was that of a strongly built muscular man. Rigor mortis was well developed. The face and neck and posterior parts of the body showed considerable lividity. There was no external mark of injury or disease. As regards the thorax the mediastinal connective tissues were very œdematous. In the anterior mediastinum, just above the pericardium, there was a large and soft lymphatic gland. In section this was seen to be inflamed with hæmorrhages here and there; it showed a moderate degree of carbonaceous pigmentation. Other mediastinal glands behind this were noticed to be fairly large and hæmorrhagic. The heart was very flaccid and the muscle was soft and pale in colour. There was a considerable amount of blood-staining under the endocardium. There was no valvular lesion or defect. Each pleural cavity contained about ten ounces of clear serous (not bloody) fluid. The lungs were free from pleural adhesions; there was no condition of the lung substance which calls for note. The mucous membrane of the larynx, trachea, and large bronchi was intensely congested but no swelling, ulcerations, or hæmorrhagic patches were found. The tongue, the fauces, and the œsophagus were also very congested and the papillæ and masses of lymphoid tissue about the root of the tongue were swollen, but there were no hæmorrhagic patches and no erosions. The peritoneal cavity contained about ten ounces of yellowish turbid fluid. There was little appearance of general acute peritonitis but there was some dulness of the surface of the intestine here and there and several small hæmorrhagic areas in the small intestine. The largest of these was situated about four feet from the pylorus; it lay for the most part to one side of the mesenteric attachment; its deep red surface was flecked with yellow fibrinous material, and it appeared to be the centre from which an early acute general peritonitis was arising. The intestines as a whole were œdematous. Internally corresponding to the hæmorrhagic patches noted externally were hæmorrhagic areas surrounded by zones of intense congestion. The largest of these, corresponding to the principal lesion above described, was ulcerated in the centre. It was extensively infiltrated with blood but presented no feature by which it could be specifically designated, having, for example, no resemblance to a typhoid lesion; it was of quite recent acute character. This lesion measured about five centimetres in diameter and faded off gradually into the surrounding pale, œdematous mucous membrane. The central parts were almost black from extravasation of blood and in the very centre, just to one side of the mesenteric attachment, the intestinal wall appeared to be necrotic and on the point of perforation. A streak of intense congestion, studded with swollen, hæmorrhagic, lymphatic glands, extended from this to the root of the mesentery. Lower down were several smaller patches of similar character. The central spot in them had the appearance of a minute abscess but on cutting with the point of the knife it appeared to be a small slough with thick purulent fluid round about it. There was scarcely any alteration of the mesentery in the neighbourhood of these smaller lesions. The stomach was congested and near the pylorus were three small hæmorrhagic patches with rather elevated pustule-like centres about three millimetres in diameter. The liver weighed 56 ounces. It was very soft and pale from cloudy swelling. The spleen was considerably enlarged, very soft, and congested; it appeared to be septic in character. All details of structure in the pulp were blotted out and it flowed out in the form of a thick chocolate-coloured liquid. The kidneys were rather small but without irregularity of the surface; the cortex was thin and it was pale from cloudy swelling. As regards the head the dura mater was of normal appearance. The superior longitudinal sinus was empty of blood; it contained no thrombi. The cerebral hemispheres on both sides showed extensive and diffuse pia-arachnoid hæmorrhage. This was most marked over the vertex and rather more on the left than on the right side. There was also much blood over the surface of the cerebellum. On the lower surface of the cerebrum some hæmorrhage was present but very much less than over the vertex. There was also blood in small amount over the pons Varolii, medulla oblongata, and upper part of the spinal cord. The ventricles contained no abnormal amount of fluid; the choroid plexuses showed no hæmorrhage. The substance of the brain presented no abnormality but in the sulci of the cerebrum and cerebellum there was hæmorrhage, just as in the pia-arachnoid of the surface. The layer of blood, even where most abundant, was quite thin, the convolutions shining out quite clearly through it between the blood-filled sulci.

Up to the opening of the dura mater the case presented the appearance of some acute septic condition, to the exact nature of which there was as yet no clue. There was no evidence in favour of traumatic origin of the pia-arachnoid hæmorrhage. Professor R. Muir, who made the examination, considered the case to be one of septicæmia and asked me to examine the meningeal fluid. Having previously known of the association of meningeal hæmorrhage with anthrax I mentioned that it might be of this nature and this surmise was confirmed by my microscopical examination. The case was then treated as one of anthrax and precautions were taken to prevent infection of the staff and students who were attending the demonstration. The city sanitary authorities also received notification. Dr. A. K. Chalmers, medical officer of health of the city of Glasgow, placed the case in the hands of Dr. J. R. Currie, who made a thorough investigation of all the circumstances of the occupation, surroundings, and recent movements of the patient. Dr. R. M. Buchanan, city bacteriologist, made bacteriological examinations of all materials which might have carried infection, including bedding, clothing, handkerchiefs, and the tallow, waste, linseed oil, and tan used in his work, all with negative results. Trade and the ordinary casual sources of infection appeared to be excluded.

The nature of the case naturally directed attention to the possibility of food infection and milk and meat of which he was known to have partaken were examined and traced to farms or the meat market. No cases of anthrax could be traced at any of the farms but on one farm from which sheep were supplied several animals had recently died from some unnamed disease. All the carcasses to which suspicion could be attached had been passed by the inspector. In the opinion of Dr. Currie, the exclusion of other sources of infection, however, gives a certain degree of probability to the belief that an anthrax-containing carcass had been used for food in Glasgow at the time when this man contracted his fatal illness. Suspicion was directed to steak and to a pie of which he was known to have partaken along with others who did not suffer, but no sure evidence of infection could be obtained. There are many examples of anthrax carcasses having been consumed without a single case resulting. The organisms in the interior of meat are in the form of the bacilli which would in all probability be destroyed by the gastric juice. Spores, on the other hand, would escape destruction in the stomach, and it is most probable that the patient in this case had swallowed a dose of spores. The formation of spores might occur on meat which had lain for some time after being cut and imperfect cooking of such meat would permit their survival.

Film preparations from various organs were made and stained with thionin blue and by Gram's method. The fluid from the meninges contained, besides the red blood corpuscles and polymorpho- and mono-nuclear cells, large numbers of organisms having the morphological characters and staining properties of anthrax bacilli, diplococci, which were occasionally arranged in short chains, long thin bacilli and short bacilli with polar staining, the last two being Gram-negative organisms. Anthrax bacilli were not found in the film prepared from the mediastinal glands at first, but

six hours later the fluid which had exuded from them was examined and was then found to contain numerous anthrax bacilli. Anthrax bacilli were also found in the films from the spleen, mesenteric gland, and intestinal lesion, as a rule accompanied by diplococci and streptococci. There was no trace of spore formation. The peritoneal exudate from near the largest intestinal lesion consisted of polymorphonuclear leucocytes and shed endothelium; it contained numerous streptococci but anthrax bacilli were not found. Apparently the lesion was virtually a perforation through which streptococci had reached the peritoneal cavity but not anthrax bacilli.

Cultures on agar and gelatin were made from the fluid in the meninges over the upper surface of the cerebrum and from the spleen. From the former were isolated the anthrax bacillus, diplococci resembling the pneumococcus, streptococci, a bacillus of the bacillus coli communis group, and an organism of about the same size, of oval form, showing distinct polar staining with thionin blue and decolourising by Gram's method. From the spleen the bacillus of anthrax, diplococci, and streptococci were obtained. Pure cultures were obtained of all but the organism with the polar staining. This was clearly not anaerobic as it was recognised in plate culture, but the agar-slope culture supposed to be taken from the colony grew only an organism resembling bacillus coli communis. The anthrax bacillus was submitted to the usual tests and gave quite characteristic growths in the different media.

The bloody fluid from the meninges diluted with sterile saline solution was injected in the skin of the abdomen of two guinea-pigs and into the auricular vein of a rabbit. 18 hours later the guinea-pigs were still fairly lively although undoubtedly ill, and the first died 21 hours after receiving the injection. There was some œdema without hæmorrhage around the seat of injection. The fluid contained swarms of diplococci with capsules and a certain number of anthrax bacilli. The peritoneal cavity contained a large amount of clear fluid in which were found a few mononuclear cells and large numbers of anthrax bacilli. The heart blood contained a few anthrax bacilli; the spleen contained anthrax bacilli and diplococci. The second guinea pig died four hours later. Round the seat of injection there were very marked œdema and hæmorrhage. Films contained some diplococci, a fair number of anthrax bacilli, and immense numbers of oval bacilli with distinct polar staining like the plague bacillus. No organisms were found in the blood or peritoneal fluid. The internal organs in general appeared healthy. Again the organism with polar staining was not isolated, the cultures yielding only the anthrax bacillus, cocci, and an organism of the colon group. The rabbit appeared fairly well at the end of the third day, but on the following morning it was found dead although still warm. The blood contained anthrax bacilli in considerable numbers and a few diplococci like pneumococci, and the organs swarmed with anthrax bacilli. Cultures yielded only anthrax. A third guinea-pig was inoculated from a subculture of this and it died from characteristic anthrax septicæmia in about 30 hours and pure cultures of the bacillus were recovered from the blood. Guinea-pigs were also inoculated with cultures of the streptococci from the spleen and diplococci from the meninges, but these hardly produced even a local reaction. It is therefore clear that the infection was true anthrax of a very virulent type and that while other organisms were present the anthrax bacilli were the principal pathogenic agents. The pur ulent meningitis in the patient demonstrated that the streptococci possessed some virulence and it appears probable that the other organisms also had pathogenic properties, the extraordinary numbers of the oval organism in the subcutaneous tissue of the second guinea-pig, which died without blood infection, being very suggestive as regards that particular organism.

Histology.—Sections were prepared from the stomach, intestines, spleen, mediastinal and mesenteric lymph glands, kidney, cerebrum, cerebellum, and root of the tongue. Unfortunately the liver and lungs were removed before portions had been taken for microscopical examination and could not be recovered. The microscopical examination confirmed the impression that the large lesion of the intestine above described was the principal seat of infection. The smaller spots in the intestine presented the character of small pustules, with necrosis of a central area from three to five millimetres in diameter involving little more than the mucous membrane and resting on a bed of polymorphonuclear leucocytes, which infiltrated the submucous and muscular coats throughout a relatively wide area. Wherever the leucocytes were found there were also anthrax bacilli in considerable numbers. The surface of the sloughing centre was crusted with organisms of various kinds. The large lesions presented a more advanced stage of a similar condition. The area of necrosis of the mucous membrane was quite small and infiltration of this coat by leucocytes or anthrax bacilli was confined practically to the necrotic centre, but intense congestion with more or less extravasation of blood was observed throughout a wide area round about it. The necrotic patches were situated on the edge of the valvulæ conniventes. The infective process, on the other hand, had spread widely in the submucous tissues and in the planes of tissue between the muscle bundles through to the subperitoneal layer. The peritoneal membrane was very ill defined in the sections. There had clearly been emigration of leucocytes beyond it and while no anthrax bacilli were recognised in the peritoneal exudate either in films or sections, streptococci were found in it in abundance and the anthrax organisms were seen in the subperitoneal tissue. This was the case even in the smaller lesions, which appeared to be nearing perforation, while the larger was in effect a perforation. The intestinal wall was swollen and its tissues were opened up by extravasation of blood and accumulation of leucocytes and necrosis of considerable extent had taken place. In the necrosed tissues very little could be made out of tissues or organisms, but in the surrounding tissues there was great accumulation of anthrax and other organisms. No anthrax bacilli had been observed within the blood-vessels in the wall of the intestines or in the vessels of the adjacent mesentery. The blood-vessels were so distended and packed with blood as to convey the impression that stasis of the circulation had occurred, but there was, as a rule, no sign of actual thrombosis within them. The walls of the vessels had a swollen hyaline appearance and the nuclei appeared to be reduced in number and stained badly as if they had been undergoing necrosis.

The sections of mesentery were taken from the part related to the largest lesion but beyond the first line of lymphatic glands. In them it was found to be deeply congested and swollen, its tissues extremely œdematous, hyaline, and breaking down in parts and infiltrated with enormous numbers of polymorphonuclear leucocytes, among which anthrax bacilli were found in small numbers. The mesenteric glands, even to the root of the mesentery, were swollen, necrotic in parts, and infiltrated with blood and polymorphonuclear leucocytes to an extent which obscures their proper structure. Anthrax bacilli were present in immense numbers, especially near the capsule, along with other organisms, of which streptococci were the most numerous.

The lesions in the stomach proved to be very small aggregations of leucocytes lying for the most part deep in the mucosa, surrounded by a zone of congestion. Anthrax bacilli, however, were found in them in considerable number. The spleen was so much distended with blood and polymorphonuclear leucocytes that the normal structure was hardly recognisable. The fine trabecular tissue of the pulp and the walls of small vessels were hyaline or broken down and the endothelium was shed and lay mixed with the blood and other cells. The Malpighian bodies could hardly be distinguished, the lymphoid tissue being for the most part replaced by large round cells with large vesicular nuclei and polymorphonuclear leucocytes clustering around the vessel. Phagocytosis by the large cells was not made out. Anthrax bacilli were present in considerable numbers in the blood and among the cells, and there were also some streptococci, as a rule in colonies. The swollen root of the tongue showed great congestion and a few streptococci in the lymphoid follicles but no anthrax bacilli. Several of these, however, were found in the widely dilated blood-vessels.

The supposed large mediastinal gland proved on section to be a mass of glands bound together by œdematous, blood-infiltrated, areolar and adipose tissues. The lymphatic and other tissues were overrun with polymorphonuclear leucocytes and broken up by hæmorrhage. Patches of necrosis were seen in all the tissues. Anthrax bacilli were found with difficulty but streptococci were present in large numbers, many of them occupying dilated blood-vessels. There was also much carbonaceous pigment, indicating that it lay in the drainage system of the lungs. In view of the loss of the lungs this condition is of importance, the contrast between these glands and the mesenteric glands in respect to the presence of anthrax bacilli confirming the

naked-eye impression that the lungs and bronchi were free from primary anthrax lesion.

The kidneys, in spite of their comparatively normal appearance to the naked eye, were the seat of most profound changes. The epithelium of the convoluted tubules was entirely necrotic and so swollen as to occupy practically the whole lumen of the tubules; that of the straight tubules was more or less swollen and shed but not necrotic. Many of the basement membranes were swollen and hyaline. The glomeruli presented no sign of the acute disease beyond some hyaline change. A very few anthrax bacilli were found in them and in blood-vessels. There was distinct evidence of an old interstitial nephritis in increase of connective tissue and some sclerosis of glomeruli. The blood-vessels, especially in the pyramids, were distended with blood and there was a little extravasation in places.

The sections of the brain showed that the hæmorrhage had occurred in the pia-arachnoid. There was for the most part no layer of blood such as has been described in cases of longer duration and was seen by me in sections from a case in Vienna, but the whole thickness of the pia-arachnoid was more or less opened up by the escaped blood which occupied its interstices and also in places separated its deep surface from the brain. In some sections, however, the layer of blood was thicker and more homogeneous. Over the convolutions the pia-arachnoid was only from a quarter to one millimetre thick, but the quantity of effused blood was greater in the sulci. To the naked eye the subdural space appeared quite free from blood, but in some parts of the sections a layer of leucocytes mixed with some red corpuscles was found lying apparently on the surface of the pia-arachnoid. The inflammatory character of this exudate was of interest because in many parts of the pia-arachnoid the condition had the character of a diffuse hæmorrhage rather than a hæmorrhagic meningitis, the polymorphonuclear leucocytes and free-lying mononuclear cells being scarcely more numerous in the extravasated blood than in that within the vessels, and there being no leucocytic exudation in the tissues. There were, however, some masses of older blood clot and thrombus with fibrin network in which polymorphonuclear leucocytes were present in large numbers. In places, also, one found considerable collections of polymorphonuclear leucocytes in the pia-arachnoid, especially in its deepest layer. The anthrax bacilli were found in very small numbers in the exudate on the free surface of the pia-arachnoid but in immense numbers within that membrane. They were perhaps most numerous in the leucocyte-infiltrated tissues and in the older masses of blood, but they were also present in large numbers in areas of connective tissue which showed no reaction of this kind. The numbers in the extravasated blood varied, being small in some of the largest and most recent-looking extravasations, and in the blood which was within the vessels there were very few, although in some vessels several might be seen. The bacilli were also fairly numerous in the external coats of blood-vessels of the pia mater, sometimes forming a distinct pale blue ring around them. The blood-vessels of the pia mater were widely dilated and the walls presented hyaline changes and shedding of the endothelium; those of the veins and smaller vessels were in many cases necrotic and actually broken down. The brain substance was comparatively little affected; there were some œdema and disintegration of the superficial tissues where the blood had passed between it and the membranes; the chromatic granules were as well preserved as they are ordinarily found 30 hours after death; there was almost no extension of the hæmorrhage along the fine nutrient vessels of the cortex and the bacterial invasion of these vessels and their lymph spaces was practically coextensive with the hæmorrhage. While no hæmorrhage in the substance of the brain was recognised with the naked eye the sections revealed a number of minute hæmorrhages deep in the cortex. The extreme dilatation of the medium-size vessels appeared to be the first stage of this, the wall finally disintegrating and the blood escaping to the surrounding lymph space or invading the soft brain substance. Anthrax bacilli were found only in two or three of the dilated vessels or the most recent hæmorrhages, although a large number were searched for them, but they appeared in considerable numbers in several of the hæmorrhages which were of somewhat larger size.

The organisms discovered in the films—viz., diplococci, bacilli like bacillus coli communis and oval bacilli with polar staining, long thin bacilli with terminal spores and a few long coarse filaments, were recognised in the sections, but by far the most numerous organism was the anthrax bacillus. A number of fragments of columnar epithelium were also found in the extravasated blood—a condition which is discussed below. The condition in the cerebellar was similar to that in the cerebral meninges but less advanced; here also it was most marked in the sulci.

The condition thus is clearly a hæmorrhagic meningitis in which, however, the inflammatory reaction in the ordinary sense is but little developed, probably on account of the extreme violence of the irritant.

The case then presents the appearance of an extremely violent attack of internal anthrax. Such cases, so rapidly fatal, are described by Bell[2] as not infrequent in pulmonary anthrax (wool-sorters' disease). The patients apparently receive a large dose of virulent anthrax bacilli or spores which constitute an invading force so overwhelming that they collapse almost without a sign of resistance. The actual illness may last a shorter time even than in the present case, and the total period from the contact with the infected material which is blamed may be less than 48 hours. In districts where the trades are pursued which are known to expose the workers to anthrax infection, such cases will probably not escape recognition. Where, as in the present case, there was nothing to connect the condition with anthrax, it is very different, and the importance of post-mortem examination can hardly be overstated. As it was, the diagnosis, even at the examination, presented difficulties which might well occur again and deserve careful consideration. The illness was an acute one with implication of the nervous system as its only prominent feature, this being explained by the presence of a lesion of the meninges of recent origin. Elsewhere—viz., in the intestine—was found a lesion obviously of older date with corresponding changes in the mesenteric glands, and no other lesion of equal age was found on any other mucous surface and there was no external wound or œdema. In other respects the appearances were those of septicæmia. In the circumstances it is impossible to imagine the intestinal lesion the result of a general infection and we are forced to the conclusion that it was the site of entry of the infection.

It is unfortunate that the question of infection through the respiratory tract cannot be settled by microscopic examination. The œdema and hæmorrhagic infiltration of the mediastinal tissues and the pleuritic effusion are among the characteristic post-mortem appearances of the pulmonary form of anthrax as described by Greenfield,[3] but both of these might be phenomena of the general toxæmia which is shown in the condition of the spleen and kidneys and blood-vessels. On the other hand, the scarcity of anthrax bacilli in the mediastinal tissues and glands is in striking contrast to their abundance in the mesenteric glands, and the absence of characteristic naked-eye lesions of the lungs and bronchi was confirmed by several observers.

Infection through the intestine is the rarest form of anthrax in man although the commonest in cattle and horses. Intestinal lesions associated with malignant pustule or carbuncle appear to have been recorded first by Fournier[4] about 1750. The connexion of the human malignant carbuncle and cases of malignant fever without external lesion with the charbon or anthrax of animals appears to have been recognised towards the end of the eighteenth century by Chabert[5] (1780). In the early part of the following century, intestinal lesions similar to those described by Fournier were noted apart from external pustules by Costa and Bertin.[6] Under the name mycosis intestinalis cases of general infection with intestinal lesions were recorded in Germany by Wahl[7] (1861), von Recklinghausen[8] (1864) and Buhl[9] (1868), who noted the resemblance of the lesion to the intestinal anthrax of cattle, and Waldeyer[10] (1871). Blavot,[11] in his account of an epidemic of anthrax in Strasburg in 1863, observed intestinal lesions, and in 1871 Münsch,[12] in investigating anthrax among hairworkers in Moscow, appears to have had to do with the three types—malignant pustule, pulmonary

[2] J. H. Bell: Article "Anthrax," in Allbutt's System of Medicine, 1897, vol. ii., p. 525.
[3] Greenfield: Reports of Local Government Board Medical Officer, London, 1881.
[4] Fournier: Quoted from Ziemssen's Cyclopedia, 1875, vol. iii., p. 401.
[5] Chabert: Quoted from Bell, vide reference 2.
[6] Costa and Bertin: Quoted from Ziemssen, see reference 4.
[7] Wahl, [8] Von Recklinghausen, [9] Buhl, [10] Waldeyer: Quoted from Bell, see reference 2.
[11] Blavot: Quoted from Ziemssen's Cyclopedia, 1875, vol. iii., p. 421.
[12] Münsch: Quoted from Bell, see reference 2

anthrax, and mycosis intestinalis—and to have recognised that they were all manifestations of one disease—anthrax. More recently, a number of papers on the subject accounting for about a dozen cases have been published in Germany. Many of these cases, however, were pulmonary anthrax with se ondary intestinal infection.

Up to 1901, according to Bell, primary intestinal anthrax without external lesion had not been observed in this country, and although he states, without giving details, that it is not uncommon in countries where anthrax is of frequent occurrence, it is evidently a decided rarity. Cases of gastric or intestinal anthrax, either accompanying a malignant pustule (cases of Mahomed,[13] Newton Pitt,[14] Lucas,[15] and Bell) or associated with extensive lesions in the lungs (Poland), or of the œdematous and erysipelatous type of anthrax (Bell[16]) have been described, but for the most part the duration of the illness was much longer than in the present case and the gastric and intestinal lesions were held to be secondary. Poland[17] regarded his case as of the inhalation type but the intestinal lesions were large, and but for the fact that there was little alteration in the mesentery the case would well bear interpretation as primary intestinal anthrax.

The case reported by Scott[18] in 1901 is probably an example of primary infection of the stomach by hair but with an accompanying skin infection. The subject was employed in an upholsterer's workshop as a cleaner and the infection was traced to hair which was in use for stuffing chairs. Other cases occurred among hairworkers about the same time in Glasgow. The woman first noticed a pimple on her cheek which after some days developed into a typical malignant pustule. On the third day she had a rigor, on the eighth day she developed epigastric pain, and died on the tenth day of illness. "Malignant pustules of large size were found in the stomach while numerous smaller ones were found in the intestines. It is interesting to note in connexion with these pustules in the stomach and intestines that her brother voluntarily stated that the patient was in the habit of chewing hair." The forewoman at her place of work had noticed portions of the hair between her lips. In more recent literature I have found after fairly extensive search only one case in this country and a case recorded by Risel,[19] which will be referred to further for other reasons, and in both of these the intestinal lesion appears to have been secondary.

The flesh of animals which have died from the disease has frequently been eaten by man without ill-effects. Infection of cats, dogs, and pigs by other portions of the same meat has been recorded[20]; the different result in this instance may have been due to the meat in the case of man having been cooked, whereas in the case of the animals it was raw. Experimentally it has been shown, however, that carnivorous animals are much less readily infected by feeding than graminivorous animals. Man appears in this respect to resemble the former class, even secondary infection of the stomach and intestines being so rare that a relative immunity to this form of infection appears probable.

The diffuse meningeal hæmorrhage, which was responsible for the most striking clinical features of the present case as well as for the recognition of its nature, is in many respects of great interest. Hæmorrhage, more or less diffused throughout the pia-arachnoid, is not a very rare condition. It is the commonest form of cerebral hæmorrhage in infants, occurring at birth as a traumatic condition, while the cause of cases occurring later appears to be obscure. It is associated with convulsions, whooping-cough, and sinus thrombosis in wasting disease. It is said to have been seen in infantile tetanus. In adults it is met in asso ciation with injury and apoplexy and septic conditions. In apoplexy the blood tends, as a rule, to pass inwards into the substance of the brain rather than to diffuse itself through the pia-arachnoid, but in cases of hæmorrhage bursting into the lateral ventricles and arachnoid cisterns of the base of the brain a very general diffuse hæmorrhagic condition of the membranes has been observed, but the accumulation of clots about the base of the brain and in the ventricles produces a condition which could hardly be confused with the present. The closest resemblance to this condition which I have seen was observed in a case of multiple small lacerations of the cerebral hemispheres due to a fall without fracture of the skull, but the diagnosis presented no difficulty.

Pia-arachnoid hæmorrhage due to septic disease, according to Pye-Smith,[21] is not common; it occurs in blood poisoning, pneumonia, anæmia, and purpura. Coats[22] mentions in addition anthrax and ulcerative endocarditis. Scurvy is also mentioned. "Blood poisoning" and pneumonia are the commonest names under which unrecognised cases of anthrax in the beginning and course of epidemics are registered and purpura is a somewhat vague septic condition which might cover anthrax.

Although the records of hæmorrhagic meningitis are not numerous, it appears to be no great rarity in comparison with the total number of cases of human anthrax which prove fatal. Bell states that about 22 per cent. of the subjects of anthrax in the epidemics in Bradford and the neighbouring wool-manufacturing districts showed rambling of the mind and delirium, and of these five became comatose and three had convulsions (eight out of 37) and in most of these he believed that meningeal hæmorrhage had occurred. It was observed post mortem in three cases which are detailed by Greenfield[23] in his report on the Bradford epidemic. Risel has collected from German and English literature over 24 cases in which the condition was found. It is therefore perhaps not too much to say that in all cases of acute disease, especially if associated with septic phenomena such as enlargement of the spleen and mediastinal œdema, diffuse hæmorrhage into the meninges ought to awaken suspicion of anthrax.[24]

As regards the route by which the organisms reached the meninges there are three alternatives, of which two are allied. It appears to be taken for granted that, as a rule, they are conveyed by the blood stream. In Risel's collection there would come under this category all the inhalation cases, 12 in number, three of obscure internal origin, and five or six external, but there are four cases in which the pustule was situated on the face or neck, and in one of these (Ziemke's) the meningeal infection was regarded as having occurred through the lymphatics. There was great œdema of the neck with widespread infection of the lymphatics, which was held to have obstructed the lymphatics draining the cranial cavity and enabled the bacilli to travel back along them to the subarachnoid lymph spaces and their branches. In these cases no bacilli could be found in the blood. In the other cases the bacilli were found within the vessels, but as a rule were few in number in comparison with the immense numbers in the extravasated blood. In one or two the bacilli swarmed in the blood-vessels as in those of animals inoculated experimentally.

In the case recorded by Risel (Case 2 of his paper) the lungs were free from infection, there was a small intestinal pustule with limited infection of the mesenteric glands, and the most striking lesions were situated in the nose and pia mater. The nasal mucous membrane was swollen, infiltrated with blood, and flecked with bloody mucus. Anthrax bacilli were found in abundance in it at several points and there was a hæmorrhagic and leucocytic exudation containing bacilli in the perineural lymphatic channels of the olfactory nerves which was followed through the cribriform plate to the dura mater overlying it. There was an enormous pia-arachnoid hæmorrhage, the layer of blood beneath the arachnoid being one centimetre thick over certain parts of the cerebral hemispheres. There was much blood also about the base of the brain. The bacilli were present in large numbers in the extravasation and in the meshes of the pia-arachnoid, and especially in the lymph channels surrounding the blood-vessels of the meninges and the small nutrient vessels of the cerebrum, but they could not be found *within* the blood-vessels of the meninges. There were a few in the spleen and liver but none in the lungs or kidneys. Risel therefore appears to be justified in concluding that they had reached the soft

[13] Mahomed: Transactions of the Pathological Society of London, 1883, vol. xxxiv., p. 294.
[14] Newton Pitt: Ibid., vol. xlii., p. 108.
[15] Lucas: Brit. Med. Jour., vol. i., 1893, p. 350.
[16] J. H. Bell: Brit. Med. Jour., vol. ii., 1901, p. 1330.
[17] J. Poland: Transactions of the Pathological Society of London, 1886, vol. xxxvii., p. 560.
[18] Alex. Scott: Brit. Med. Jour., vol. ii., 1901, p. 136.
[19] Risel: Zeitschrift für Hygiene und Infectionskrankheiten, 1903, vol. xlii., p. 381.
[20] Meat Infection, Gilruth in Report of New Zealand Department of Agriculture, Division of Veterinary Science, 1901-02.
[21] Pye-Smith: Hilton Fagge's System of Medicine, vol. i., p. 557.
[22] Coats: Text-book of Pathology, fourth edition, p. 400.
[23] Greenfield: As above, see reference 3.
[24] I have to express my indebtedness to Dr. K. Landsteiner of Vienna, who had informed me that he had seen more than one post-mortem examination in which the discovery of diffuse pia-arachnoid hæmorrhage gave the first warning that the pathologist had to deal with a case of anthrax.

meninges through the perineural lymphatics of the olfactory nerve which are known to be in direct communication with the subarachnoid lymph spaces.

From the first the infection in the present case was interpreted as blood-borne. The practically universal distribution of the extravasated blood, the comparative thinness of the layer, and the absence of any definite focus from which the condition appeared to spread, all seem to preclude any other explanation. Moreover, at the base of the brain the amount of extravasated blood was relatively small and nothing called attention to the points at which the lymphatic channels pass inwards or outwards. The cribriform plates and the roots of the optic nerves certainly presented no hæmorrhagic lesion. Judging by the condition of the lymphatics of the intestine in the neighbourhood of the pustules, had the organisms reached the skull by channels of this nature there would have been a local lesion and a spreading lesion centred about it. Where there had been great hæmorrhage such a lesion might well be obscured, but this could not have been the case where the lesion was at such an early stage as in the present case. No nasal discharge was noted during life. Moreover, there was clearly a generalised infection, although the bacilli were not numerous in the blood. The extreme dilatation and breaking down of the walls of the blood-vessels in the pia mater and in the intestines where bacilli were numerous may be interpreted as due to toxic causes working from without, but in the spleen, the mesentery, and the mediastinal tissues it may be, and in the tongue, the cerebrum, and the kidney it must be, regarded as due to an internal cause. A reason, although not an explanation, why it should have produced such extraordinary effect on the vessels of the brain may perhaps be found in the cirrhosis of the kidney—a condition which is commonly held to favour cerebral and meningeal hæmorrhage. Moreover, a few little hæmorrhages (represented by the older masses of blood and leucocytic exudation mentioned in the description of the brain) would allow some escape of bacilli into the meninges where they found a favourable nidus in which to develop. Then the external toxic effects would speedily produce further bleeding and a condition which corresponds with the extreme rapidity of the last phase of the clinical course of the case.

An additional proof at once of the intestinal nature of the primary infection and of the blood-borne character of the infection of the meninges is supplied by the discovery of fragments of columnar-celled epithelium in the blood in the meninges. These were at first regarded as accidental and due to some fault in handling of the material, but further investigation showed that this view must be abandoned. The structures were found deep in the sulci of the cerebrum in sections from the centre of blocks of tissue which had been carefully fixed and imbedded in paraffin. They were clearly in the blood in the sulci and must, I think, have been brought there by the blood stream. Similar structures were found in the submucous coat of the principal intestinal lesion, where they were recognised as identical with the epithelium covering the villi and lining the Lieberkühnian crypts. How they came into their position is not clear but they appear to have entered at the central necrotic area of the lesion.

Analogous observations referring to bronchial ciliated epithelium in the first case and bile-duct epithelium in the second are recorded by Foà and Lubarsch.[25] The condition is very curious, as these structures have no close relationship to the blood-stream such as is seen in the well-known embolism of bone marrow and placental cells.

Summary.—In conclusion little need be said. Clinically the case was one of acute illness terminating fatally within 24 hours, the prominent features of which were headache, cerebral irritation manifesting itself in restlessness, delirium, and finally convulsions. There was also slight abdominal tenderness which might have suggested peritonitis but there was no pyrexia. The history afforded no hint as to the nature of the disease. At the post-mortem examination the case presented the features of an acute septicæmia and early peritonitis which appeared to spread from a hæmorrhagic lesion of the small intestine with ulceration and necrosis internally and signs of an infective process extending up the mesentery. The nervous phenomena were explained by the discovery of a diffuse hæmorrhagic condition of the pia-arachnoid, which microscopical examination demonstrated to be an early meningitis due to the bacillus anthracis. The identity of the organism was proved by cultivation and inoculation experiments. The intestinal lesion was clearly the oldest and the conclusion appears fully warranted that the case was anthrax septicæmia due to intestinal infection caused most probably by the ingestion of a quantity of anthrax bacilli or spores in food.

I have to express my indebtedness to Professor R. Stockman and Professor R. Muir for permission to publish the case, to Dr. Bell for the clinical notes, and to Dr. Chalmers and Dr. Buchanan for permission to use their reports.

Glasgow.

[25] Foà and Lubarsch: Lubarsch's Allgemeine Pathologie, 1905, Band I., Part I., p. 250.

A NOTE ON THE TECHNIQUE OF COLON-IRRIGATION IN A CASE OF APPENDICOSTOMY FOR COLITIS.

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SENIOR PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE BELGRAVE HOSPITAL FOR CHILDREN.

As the procedure which I have used in this case has been alluded to both by Sir William Bennett[1] and by Mr. C. B Keetley[2] a brief description of these beginnings in the utilisation of the appendix for therapeutic purposes may not be inopportune. The patient, a female, aged 44 years,[3] now convalescent after upwards of 12 months' diarrhœa and wasting from mucous colitis, was sent to me for diagnosis and treatment by Mr. T. J. Hitchins under some suspicion of a carcinomatous affection which was suggested by the intractable nature of the complaint and by a slight tendency to hæmorrhage from the bowel. After ineffectual medical and dietetic measures appendicostomy was decided upon and was performed for me on Dec. 20th by Sir William Bennett, as described in his lecture,[4] most successfully and with the happiest results as regards complete freedom from surgical complications and from any troublesome leakage of gas or of fæces. Since that date the colitis has been treated through the appendix by myself and by my skilful house physicians, Mr. J. H. Bankes and Mr. J. Aylen, with a variety of remedies, such as extensive irrigations with saline solution, starch water, infusion of marshmallow, &c., and injections of oil, of lime water, of various astringents, of ipecacuanha powder in suspension together with cinnamon and charcoal, of glycothymolin, and of argyrol—none of which stopped the profuse discharge of blood-stained mucus. This ceased, however, a fortnight after beginning a course of a simple daily injection of two ounces of liquid paraffin into the cæcum, charcoal being administered by the mouth. Further therapeutical details are unnecessary, as the main object of this communication is to describe the mode of performance of the injection and irrigation of the cæcum and colon and of the systematic irrigation of the lower part of the ileum.

1. *Irrigation of the cæcum and colon.*—For this I used a No. 8 male indiarubber catheter, with a very pliable soft copper wire as stilette, bent upon itself at its extremity to obviate the risk of any injury to the mucous membrane. Dipped in glycerine the catheter slips in easily into the cæcum, where it is apt to coil itself if more than a few inches of its length are introduced, as was shown in a skiagram taken by Mr. F. Thornton Addyman. The largest irrigation used was of 20 pints, supplied from an irrigator under moderate pressure. The patient, placed in the dorsal decubitus, is previously provided with a good-sized rectal tube with attached outflow tube. It is convenient to insert one or two glass joints in the length of both sets of tubing. No pain or undue distension results if the way should remain clear. Should, however, any delay occur in the outflow other than the normal periodic intermissions due to peristalsis of the colon it will probably be found that the cæcum has become distended and that by turning the patient slightly towards the left the flow will be restored. A judicious use of the clips on the supply tube and on the rectal outflow tube can be

[1] THE LANCET, Feb. 17th, 1906.
[2] THE LANCET, April 14th, 1906.
[3] St. George's Hospital Medical Register, No. 1940 of 1900.
[4] THE LANCET, Feb. 17th, 1906.

made to bring about, if desirable, a moderate state of distension of the entire colon. *Simple injections* for retention in the bowel do not require the rectal tube which should be removed after the preliminary irrigation. They are conveniently performed with the help of a large surgical syringe.

2. *Injection and irrigation of the lower ileum.*—As a ready access to the small intestine was part of the object of the operation, in case it should have been diseased, and with a thought also for the requirements of typhoid fever cases, I directed most of the injections which I myself performed into the small intestine, having previously worked out the method in the dead body with Sir William Bennett. The *modus operandi* is simple and has been found quite easy by my house physicians as well as by myself. The catheter is bent (not too sharply) to about 110° at a point two and a half inches from its tip. It is to be introduced, not sagittally as when it is intended for use in the cæcum, but inwards and downwards as well as backwards in the direction of the nearest spot on the brim of the pelvis. The assurance that the catheter has entered the small intestine is given by the greater length introduced (maximum in this case nine inches), by the subjective sensations of the patient experienced in the hypogastrium even so far as the middle line, by the direct palpation through the abdominal wall sometimes obtained by the operator, and by the skiagram of the stilette *in situ*.[5]

3. *Systematic lavage of the lower ileum*, such as might be suitable for ulcerative typhoid fever, is best performed with two tubes instead of the single catheter. With the valuable assistance of Mr. Aylen I have satisfied myself in this case that a therapeutic lavage of the last portion (probably a foot or two) of the ileum could be readily achieved after a preliminary cleansing irrigation. For this special purpose I have introduced side by side a No. 2 gum catheter and a No. 6 gum catheter; but I should prefer the indiarubber instruments if made thinner in the wall. The small catheter is passed through the valve first, in the manner which I have described, to the distance desired, and the larger one is then introduced into the cæcum, where it acts as a draw-off for the fluid injected higher up. This arrangement might enable antiseptics to be used locally which it might not be desirable to expose to absorption by the mucous membrane of the entire colon. The quantity injected being noted evidence would be obtained that it had been duly recovered from the cæcum either by simple syphonage or if necessary by aspiration with the syringe. For this lavage the patient should assume a three-quarters right lateral decubitus to promote the descent of the injected fluid into the cæcum.

Although the experience which I have detailed has been gained in a single case it will probably apply in general outline to the majority of cases. The anatomical relation of the ileo-cæcal valve to the brim of the pelvis is not liable to much variation and that which exists between the valve and the entrance to the appendix is also fairly constant; it is in the direction taken by the tail of the latter that the chief individual differences are found and these would be eliminated by dividing the appendix high up. A short stump would also afford the advantage of a broader way into the bowel, although it might fail perhaps to provide for a faithful sphincter-like action.

Remarks on Appendicostomy and the Treatment of Typhoid Fever.

The answer to the question proposed by Mr. Keetley in THE LANCET of April 14th, "Ought not typhoid fever patients to be operated on before fatal perforation and bleeding occur?" must ultimately depend upon the results which may be achieved by early surgical interference when it comes to be tried. It is clearly too late to begin any local treatment of the bowel when the patient is *in extremis*. These resuscitation operations are a purely surgical concern and have nothing in common with the local therapeutic method for which surgical assistance may be desired by the physician. I may be allowed to state that the anxiety with which I have been credited by Sir William Bennett[6] and by Mr. Keetley[7] to utilise appendicostomy for the benefit of typhoid patients is in reality little more than a return to views which I had held for years as to the necessity for a local treatment of the ulceration presumably by a surgical route, until the favourable results yielded by the "empty bowel treatment," which I described in my last published clinical lecture on the Principles of Treatment of Typhoid Fever,* led me to hope that surgical help might be dispensed with. This apparent change of front is only as to the means. It is not due to any less regard for the "empty bowel treatment" but to a more personal acquaintance with the special facilities for local treatment combined in appendicostomy with a minimum of operative risk and of after trouble. Indeed, my obligation to Sir William Bennett for having for years discouraged my appeals for modes of interference offering doubtful surgical prospects is not less than that I owe him for having finally provided me with this more hopeful method; and once more the possibilities connected with surgical access to the bowel must command my careful consideration in spite of my recent disclaimer.

Mr. Keetley in the concluding paragraph of his important and suggestive paper alludes to some possibly superior advantages of enterostomy. Without presuming to discuss the surgical merits of the two operations, and although this is a purely academical stage in their discussion, I may perhaps record my preference for the less severe one which entails little interference with the intestinal economy, and in that sense affords much better scope for local medical treatment. For I cordially agree with Mr. Keetley's sentiment that "the operative treatment of typhoid fever ought not to mean taking the disease out of the physician's domain and transferring it to the surgeon's. It is a means of facilitating treatment by the physician."

I have briefly sketched the mechanical technique adapted for the "appendicotherapy" which may soon be made available for the treatment of the "typhoid segment" both when ulcerated and, perhaps better still, prophylactically prior to ulceration. Meanwhile, my therapeutic endeavour is not, either in this or in any other affection, to extend but rather to contract the surgical frontier. I still consider that the medical resources for the cure or the curtailment of the typhoid attack are by no means exhausted. But if the knife should prove to be an indispensable accessory to that achievement I should not decline its service. I also believe that Mr. Keetley's question as to the proper time for surgical interference would then be decided on grounds of public health; and that it would probably be decided in favour of a sterilisation of Eberth's bacillus *in situ intestinali* with a minimum of surgery and of the utmost reduction by that way of the spread of typhoid infection.

Curzon-street, W.

[5] Dr. Ewart showed us two skiagrams which we were unable to reproduce. The one showed the catheter lying in the ascending colon and the other showed it in the small intestine passing across from the right-hand side of the false pelvis, across the middle line till the point was lost about the brim of the true pelvis on the left-hand side.—ED. L.

[6] THE LANCET, Feb. 17th, 1906, p. 419.

[7] THE LANCET, April 14th, 1906, p. 1023.

* Brit. Med. Jour., Dec. 9th, 1905.

TWO UNUSUAL CASES OF DIFFICULT LABOUR.

BY H. T. HICKS, F.R.C.S. ENG.,

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CASE 1.—The patient, a married woman, aged 31 years, had had one full-term child, born dead after a prolonged labour which ended in a difficult forceps delivery; this was two years ago. She had now reached the full term of her second pregnancy. Labour pains began in the afternoon of March 27th. The os was only slightly dilated and the face was found presenting; the membranes ruptured about 9.30 P.M. As the face did not descend and the pelvis was contracted version was attempted by the patient's medical man about two hours after the membranes had ruptured. The face was lifted out of the brim without difficulty and the right foot was found close down beside the head. The head was said to be moveable. Traction on the leg failed to move the child and after a prolonged attempt, first at version and then at applying forceps to the head under an anæsthetic, the patient was taken to Guy's Hospital in the early hours of March 28th. On admission the pulse was 136 per minute but the general condition was fairly good. There were great swelling and bruising of the vulva and vagina. On abdominal examination the extended head could be felt easily just above the pubes in front; it was freely moveable and Bandl's ring

could be made out above it. The fundus was hard and firmly contracted. On vaginal examination the face was reached high up in front; it was moveable above the brim and not attempting to engage. The right foot, also moveable, was lying just below the level of the face. The hand could be passed into the lower segment of the uterus all round the head and leg but above the head the position of the retraction ring was very marked. Under deep anæsthesia the foot could be brought down to the vulva but this traction did not alter the relation of the fœtus to the uterine wall. The whole uterus descended with the fœtus and when traction ceased the leg again receded to its former level. The measurements of the pelvis were taken and showed clearly that it was contracted; at the same time it was quite obvious that the difficulty in delivery was not now due to the contracted pelvis but to the retraction ring and the grip of the fundus upon the trunk of the fœtus. The head could not rise and the trunk could not descend when traction was made on the leg or the head. The head was perforated through the eye and after traction had been made with the cephalotribe without success the neck was severed with long scissors and the head was removed. Gentle traction on the leg at once delivered the fœtus. The clinical measurements of the pelvis were: external conjugate, 7½ inches; interspinous, 9½ inches; intercristal, 11½ inches; diagonal conjugate, 4¼ inches; estimated conjugate, 3⅝ inches (high promontory). The patient made a good recovery after a long convalescence but the vagina became much contracted by bands of cicatricial tissue. The posterior wall of the upper half of the urethra sloughed and there was still incontinence of urine. The patient was a tall strong woman who showed no other signs of rickets and had no other deformity. The fœtus was not of excessive size and weighed seven pounds after perforation and measured 20 inches. Since writing this the patient has become pregnant.

CASE 2.—The patient was a married primipara at full term of pregnancy. Labour began about 11 P.M. on Dec. 27th. The attending medical man examined and found the os undilated but made out that the head was presenting. He also noted that the abdomen was very pendulous. A tight binder was applied and the patient was advised to lie on her back as much as possible. About 6 A.M. on the 28th the membranes ruptured and strong pains came on. The medical attendant found that the head, arms, and legs were presenting above the brim of the pelvis. The os uteri admitted three fingers. An anæsthetic was given and traction was applied to the legs with pressure put on the breech from above. After a prolonged unsuccessful attempt at delivery in this way the patient was sent to Guy's Hospital about 12 noon. On admission the patient was painfully conscious but free from pain. The pulse-rate was 160 per minute. There were great discolouration round the vulva and laceration of the perineum and vagina below. On abdominal examination much the same condition as in Case 1 was found. The fundus was hard and contracted tonically. The retraction ring could be made out placed obliquely and about four inches above the pubes. The uterus was not tender and all attempts at bearing down were absent. The fœtal head was felt plainly lying in front just above the pubes. It formed a hard round mobile swelling and could be pushed laterally for two inches or more in either direction. It seemed to be covered with a very thin dilated but lax lower segment of the uterus. On vaginal examination under an anæsthetic the head could be reached high up above the pubes in front, the right arm was hanging down beside it but the shoulders were held up above the retraction ring. The right leg was also hanging down behind and to the right of the head and arm. The head was perforated and crushed but traction with the cephalotribe failed to move the fœtus. Traction was then applied on the leg and after considerable difficulty the perforated head rose above the retraction ring and the fœtus was easily delivered. The patient died about half an hour later.

At the necropsy the uterus and vagina were dilated into one cylindrical canal and there was no rupture or tear in the genital tract except at the perineum. The post-mortem examination was made 24 hours after death and no sign of the retraction ring was found, nor was this very marked on examination after delivery. There was an oblique tear of about two inches in the left broad ligament behind and some of the veins at the base of the ligament had ruptured, giving rise to the half pint of free blood found in the peritoneal cavity. The rupture was situated low down and did not reach up to the uterus. There were considerable laceration and bruising about the vaginal outlet and the perineum was also torn. The mother was of good height (5 feet 6 inches) and showed no other deformity. The pelvis was removed from the body.

Description of the bony pelvis.—On inspection the pelvis showed a delicate formation and the generally contracted type without change of shape other than a slight obliquity towards the right. The outside measurements were: interspinous diameter, 8½ inches; intercristal diameter, 9½ inches; external conjugate, 6½ inches; posterior interspinous, 3½ inches; true conjugate, 4 inches; right oblique, 4¼ inches; left oblique, 4⅛ inches; maximum plane of expansion, 5 inches; minimum plane of expansion, 4¾ inches; from the lower part of the pubes to the tip of the lower end of the sacrum, 5 inches; and interischial tuberosities, 4¼ inches. It will be noted that the left oblique diameter is a quarter of an inch longer than the right, due to slight flattening of the left iliac bone in front, so that the symphysis of the os pubis is pushed for a quarter of an inch to the right of the middle line. To be strictly correct, therefore, this is a generally contracted pelvis with a slight oblique tendency towards the right. Both hip-joints and spine were normal, so that it is difficult to explain how this slight oblique twist arose. The alæ of the sacrum were equal on both sides. It is thus obvious that the pelvic brim was quite able to accommodate the fœtal skull and there was ample room in the cavity to allow of its passage. The measurements in the first case were estimated by clinical means; in the second they are taken from the actual specimen removed from the body.

The details in the early stages of labour in both cases are not very trustworthy. The uterine contractions appear not to have been very marked and there seems to have been no violent or excessive action leading up to the tonic contraction. I think therefore that one must look upon the condition of the uterus as premature contraction and retraction. At the time of admission into hospital the two cases illustrated a similar state, both as to the fœtal position and the uterine action, with the exception that the head was extended in the first case and flexed in the second. The uterus may be described as consisting of two parts, an upper contracted fundal portion, containing the arched back of the fœtus, and the lower lax thin part, containing the moveable head and leg, and in Case 2 the arm in addition. Between the two compartments was the rigid retraction ring gripping the neck and thigh of the fœtus. The fundus was in tonic contraction and there was a complete absence of any driving down force; in fact, the uterus may be said to have prevented its own action, for the fœtus was held high above the brim, suspended by its back. Apart from the danger of rupture of the uterus traction on the leg failed because the head could not rise from below the retraction ring and traction on the head was equally useless because the shoulders could not descend from above the retraction ring. Although the pelvis in each case was moderately contracted it was playing no part in the prevention of delivery at the time of admission.

On making strong traction with the cephalotribe, applied to the fœtal head after perforation, it was extremely difficult to make the head reach the brim, and the traction had merely the effect of pulling both uterus and fœtus down together. The result was that when released the uterus again sprang back to its original position, dragging the fœtus with it. It is not easy to determine how this unusual condition came about, for the details of the early stages of labour are not full enough. Although the pelvis in both cases seemed large enough to allow the passage of the normal fœtal head, the contraction may have been sufficient to prevent the head primarily from settling into the brim. A face presentation resulted in the first case, but in the second flexion was undisturbed. The medical attendant attempted version in Case 1, and spontaneous version may have been in progress in Case 2. The uterus then went quickly into tonic contraction and, as it were, caught the fœtus while in the act of turning, and as contraction and retraction became more marked the presenting parts were actually lifted high up above the brim. In the second case the pendulosity of the abdomen was noted before labour had started; this suggests that the fœtal head had not settled into the brim at the commencement of labour. In neither case was there any evidence of moulding.

Treatment.—The condition is easily recognised from obstructed labour due to contracted pelvis. In the first place, the head is so moveable and high that it can only be reached

with difficulty with the cephalotribe or by long forceps; and, secondly, the uterus does not drive the presenting parts towards or into the brim, even though the latter could accommodate them. These facts are sufficient to make one suspect that the trouble lies at the retraction ring and not at the brim of the pelvis. It is of the utmost importance to

Diagram of the position of the fœtus in relation to the pelvic brim and uterus.

recognise the condition because traction on the leg or on the head with forceps is not without danger. The treatment is clear. A blunt cephalic hook is passed round the neck of the fœtus in order to bring the head as low as possible. The neck is then cut through, either with scissors or with the sharp hook. The head is then crushed and delivered with the cephalotribe after perforation. Gentle traction on the leg will effect speedy delivery of the trunk. It was noted at the time that in both cases the uterus was not very hard and the patients suffered only slight pain. Ergot had not been given in either case.

I have to thank Mr. J. H. Targett for kindly allowing me to describe these cases.

St. Thomas's-street, S.E.

INVISIBLE SURGERY.

BY J. L. A. AYMARD, M.R.C.S. ENG., L.R.C.P. LOND.

A METHOD of skin division without leaving a permanent visible scar would appear to most surgeons to be an impossibility and yet such is not the case. My new skin incision is by no means the result of a sudden inspiration but rather the outcome of a study of the important subject of scars in general. I notice with regret a tendency to resent details when issued by great surgeons and therefore fear that the present addition to what appears to be the simplest of operations may not be received without considerable irritation, and yet I will publish none which I do not consider essential to complete success.

My new method of skin division consists of the simple operation of dividing it upon the slant in contradistinction to the present method of dividing the same at right angles to the surface. My idea, though new by design, is by accident of very ancient origin. There are few of us who have not on our person some example, however small, of this cut through the skin upon the slant. Such a cut, if extensive, generally presents a somewhat lumpy appearance due to contraction and very often a smooth mark at the line of junction. It is a skilled application of the principle with scientific correction of the defects which give results entitling such a heading as appears to this article.

Before dealing further with this new incision it will be well to consider the one generally in use at the present time—namely, at right angles to the surface. The skin alone is in most places quite thin and were it not for the fat it would be most difficult to bring it in anything like contact. From experiments I have made I am inclined to think that, except in the immediate proximity of a suture, the tendency of the ordinary applied dressing is rather to cause separation than approximation. In any case, the result of a clean incision at right angles to the surface is always a white linear scar. A continuous suture gives no better result. The reason why a cut through the skin upon the slant and subjected to properly applied pressure heals so perfectly is not far to see. Contact is perfect and the greater the pressure within limits the better it is. I have proved beyond doubt granulation growth can be controlled by pressure and was therefore not in the least surprised to get such good results from this new incision. The ordinary process of healing proceeds as usual but granulation tissue with subsequent fibrous and scar tissue is reduced to a minimum. The scar is present but hidden away and, if I may quote, "What the eye does not see the heart does not grieve."

Fig 1

Section of New Skin Incision

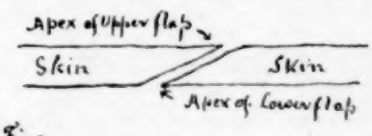

Fig 2

Shewing Contraction

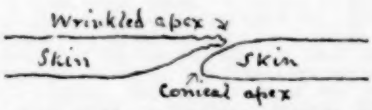

Fig. 1 gives a rough idea of the new incision. Fig. 2 gives also a diagrammatic appearance of the condition of the flaps directly after division.

It is of the greatest importance that we should grasp what takes place. The apex of the upper flap at once retracts and becomes wrinkled, curling inwards or outwards according to the region of the incision. The apex of the lower flap takes as a general rule a conical form. In the subsequent approximation these points should be borne in mind. It is not sufficient simply to adjust the wrinkled apex of the top flap.

Now as to the details of the operation, preparation of skin, anæsthetic, preparation of hands, light, instruments, dressings, and after treatment. All extravagant preparation of the skin is, I think, out of the question, the simple expedient of scrubbing with hot water and soap being quite sufficient, the skin being then protected with a warm dry sterile pad. The question of shaving the site of incision is a matter of some importance; shaving a hitherto unshaven part is apt to produce a vigorous growth of hair, and no lady in social position will thank you for this. I therefore consider it best to extract with forceps those hairs which are in the immediate neighbourhood of the incision, fixing others with collodion out of the way. In the case of a man, from whose cheek or chin I wish to remove a tumour, my plan is as follows. Allow two days' growth of hair, then extract as above in proximity to line of incision, then shave the whole surface. Any fear of hairs growing at once into the wound is avoided. Having done this I prefer the application of a warm dry pad, not a moist one, as the skin should not be macerated before operation. As to an anæsthetic, I generally prefer not to use a local one on account of the extra swelling. Hands are prepared in the usual manner, avoiding gloves; the latter will be found almost impossible in the delicate manipulation described later. An excellent light is, of course, essential when adjusting the upper flap, and a large magnifying glass is of great assistance.

Now as to instruments. The most important of all is, of course, the knife. My earliest efforts were made with an adapted hollow-ground razor. I now use most excellent

hollow-ground scalpels, made by Messrs. Down Brothers to my design. The ordinary scalpel is quite unsuitable for skin division at any time unless extremely sharp. It is wedge-shaped and, may I say, the worst treated of all instruments. Is it not thrown into the tray, on the bed, and generally neglected? If an ordinary scalpel is used in my new skin operation nine out of ten cases will prove a failure. There must be one clean cut without force. The ordinary scalpel used as it should be will seldom do this, but more often dissect up a quarter of an inch or more epithelial flap before penetrating the corium. My hollow-ground scalpel must be used only for the purpose for which it is intended and substituted for the ordinary scapel as soon as the skin is divided. It must be treated with the greatest care and after stropping cleansed with ether and alcohol. Light spring tissue forceps, dissecting forceps, and sometimes lance-pointed needles and horse-hair sutures are required, as also are dressings, glass cover, collodion, silk, absorbent wool, bandages, and sometimes a back splint.

With regard to the operation itself, the skin should be reasonably stretched in all directions by assistants if this is not already the case by some underlying tumour. The angle at which the knife should be held can only be learnt by practice. The skin, as a rule, will give five or six millimetres or about a quarter of an inch flap, but in addition at least as much fat flap, except, of course, when the fat is excessive. Fat makes firm rapid union and is therefore of considerable importance. The knife should make one clean sweep down to the fascia, which in turn should be divided as far under the base of the upper flap as possible and on no account should the lower flap be dissected off this fascia. The upper flap is now inclosed in warm, dry, sterile lint and secured far back with tissue forceps. The lower flap being retracted on the fascia is treated in a similar manner and the operation for which the incision was made proceeds in the usual manner. If the operation is prolonged the warm, dry lint should be renewed.

The next step is the important one of adjustment. Upon the question of tension depends the necessity of a subcutaneous suture. I seldom use a suture but when I do it is as follows. I pass a lance-shaped slightly curved needle threaded with fine horsehair through the skin upon the slant at a little distance from one extremity of the wound; it then passes through the base of the upper and the apex of the lower flap continuously, its point of exit being through the skin on the slant at the other extremity of the wound. The suture is not tied and is removed at the end of 48 hours. Previously to inserting a suture, in all cases the following very important manipulation must be carried out. The object is to stretch the delicate apex of the upper flap, the least force will tear it off, therefore if forceps are used great care must be exercised. I find the best plan is gently to press this edge between the finger and thumb when it will be found gradually to yield; at the same time the lower flap must be stretched and placed in position with suitable forceps. The delicate edge is then carefully spread in its proper position, the accuracy of which is best tested with a good large magnifying glass. The subsequent object of dressing is to keep this edge, together with the rest of the flap, in accurate flat position, remembering that undue pressure may cause damage. Sometimes I secure the wound by placing across a few strips of China silk and collodion, at others by merely placing collodion on the curved or flat glass dressing. When the glass is pressed flat the exact position of the flap can be seen at a glance. I prefer glass to celluloid or mica because it is rigid, a matter of importance when applying pressure. In all probability excellent results will be obtained in a dozen other ways. I use glass because I am accustomed now to its manipulation, but I do not propose to go into any further details on this point at present. I published a paper[1] a little time ago giving some details, but I find that surgeons consider it is too much trouble, although they admit that the principle is correct.

With regard to pressure, it should be slight for the first few days, then gradually increased. Whichever rigid dressing is placed over the wound it should be covered by a large pad of wool. If no rigid dressing is thus used in all probability a contracted condition of the flap will result. Sooner than allow a wound to heal in bad position I would always break it down and begin again.

[1] See THE LANCET, Nov. 18th, 1905, p. 1468.

At the present time I am more concerned with the artistic effect produced when operating upon the more exposed parts of the body and particularly in those classes of society to which any undue blemish is of importance, especially in removing glands from the neck. The mechanical advantage of the operation in general I am well aware of. It is to be feared that only in these cases will the best results be obtained. We are all aware that wounds on the face heal rapidly but do they not invariably leave ugly scars? I prefer to deal with these cases by converting the accidental cut to one on the slant at or as near the time of accident as possible and I have no hesitation in breaking a recently healed wound for this purpose. In such cases where the operation has been performed by a consulting surgeon the general practitioner must be called in to play a most important part; not only should he personally be intrusted with the subsequent massage but also with the general supervision for a considerable period and this should in all cases be explained to the patient before operation. These results would seldom be obtained with the poor who would not be found to present themselves once the wound was healed. The difficulties of the operation are not many but they will be met with—a very thin skin over a tense cyst or abscess, and, on the contrary, a very lax condition of skin may tax the ingenuity of the beginner but not the experienced surgeon.

The very important question now to be considered is the one of massage. The massage of wounds and scars practically is not recognised and as a general rule may be said to be entirely neglected and yet is there any reason why it should not be carried out with as excellent result as in the case of bones, ligaments, muscles, &c.? The moment a wound has healed over, as a rule, it is left to its fate and only when the skin has formed firm adhesions and contractions is the damage realised. In any ordinary wound involving the whole thickness of the skin the scar may be prevented from forming adhesions; it may be stretched, softened, and in many other ways improved.

In the case of my incision upon the slant there is perhaps only a very small amount of scar tissue, but though unseen it is there. Proper massage and stretching if necessary will promote circulation, restore contour, and prevent subcutaneous adhesions. Few patients would submit themselves continuously to the consultant or general practitioner after all apparent reason had gone for so doing and therefore I am drawn to the conclusion that it is only by the coöperation of both that the best results will be obtained.

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BRONCHO-PNEUMONIA AND PYÆMIA.

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THE serious complications of measles are those which are associated with, or follow on, the initial catarrh of the respiratory passages, and of the complications the most serious is broncho-pneumonia. This condition may develop during the acme of the exanthem or it may not appear until the eruption has faded and the initial fever has passed off. The clinical symptoms and signs and the pathological appearances vary greatly; the disease may terminate fatally after two or three days or it may continue for three or four months and end in recovery. In some cases the symptoms of respiratory distress may be very alarming and the objective pulmonary signs very indefinite, while microscopic examination may be necessary to determine the nature of the lesion. In other cases respiratory difficulty may be absent and fever may never exceed 99° or 100° F. and for the most part be below 98·4°, while physical examination reveals the presence of extensive consolidation, and on post-mortem examination there may be found advanced lobular consolidation with acute vesicular emphysema. No less varied is the number of pathogenic organisms that have been found in the bronchial secretion and in the inflammatory exudate. These include Fraenkel's pneumococci, Friedlander's bacilli, staphylococci, streptococci, pseudo-diphtheritic bacilli, and bacilli coli. It is believed that the pneumococcus is present in the great majority of cases and it

has been found by me in pure culture and associated with other organisms in 26 out of 34 cases examined. Not infrequently organisms may be found in the blood. In the examination of 12 cases, eight before death and four after death, in four of those examined before death organisms were found (two pneumococci, one staphylococci, and one streptococci), while in three out of the four examined after death organisms were found (one pneumococci, one staphylococci, and one bacilli coli). A case has recently been observed which constitutes a type altogether different from any of the many varieties usually seen and described. In this case, very acute in its course, the constitutional and nervous symptoms overshadowed the respiratory symptoms. The ultimate examination showed it to be a case of broncho-pneumonia giving rise to pyæmia and solely due to the staphylococcus aureus. It is, moreover, the only case in a series of 34 examined in which the staphylococcus aureus was present unassociated with any other organism. The case presents features of a singular character, interesting from both a clinical and pathological standpoint. It is the only case of its kind noted in the clinical observation of 1000 cases of measles and in the pathological examination of 130 cases of broncho-pneumonia.

A boy, aged one year and eight months, came under observation on Sept. 26th, 1905. He was quite well until the 23rd when he took a "cold in the head." The eyes and nose discharged, cough was frequent, and he was not disposed to take his food. These symptoms increased in severity and were subsequently accompanied by considerable restlessness, until on the morning of the 26th a rash was noticed on the face. On the evening of the same day he was admitted to a measles ward in hospital. With regard to his previous health the child was said to have been healthy till the onset of the present illness. As to his family history and social conditions, the father and mother were alive and well. The patient was one of a family of four, all of whom were in good health. There was no evidence of constitutional disease in the history. He lived with his parents and three elder brothers in a house consisting of a room and kitchen, which was said to be well lighted and ventilated. He had always had plenty of nourishing food.

On admission (on the 26th) he was restless and slightly delirious. He was well nourished and developed. There was a profuse morbilliform rash all over the body. The conjunctivæ were suffused, the face was swollen, and rhinitis was present. The tongue was coated with a brown fur and Koplik's spots were present on the buccal mucosa. The throat was congested but there was no ulceration. The chest on inspection was seen to move freely and equably; the respirations numbered 52 per minute but were not laboured. On percussion the note over the pulmonary area was resonant throughout and on auscultation the respiratory murmur was everywhere accompanied by a moist inspiratory râle and an occasional wheezing râle; there was no evidence of consolidation. Cough was infrequent but secretion was not ejected. The area of cardiac dulness was marked on the right by the left sternal border, on the left by a line a quarter of an inch inside the nipple line and above by the third rib. The apex impulse was in the fourth interspace and a quarter of an inch inside the nipple line; the heart sounds were distinct, of good tone, and free from murmur. The pulse was regular in force and rhythm, of fairly good quality, and numbered 148 per minute. The abdomen was flaccid and the liver could be felt projecting beneath the right costal margin but the spleen could not be detected. The pupils were equal and reacted normally. The temperature was 101·2° F. On the 29th the progress of the patient was not satisfactory. Although the measles rash had disappeared there was no abatement of the fever and contitutional symptoms. The suffusion had disappeared from the conjunctivæ but the eyes had a clear, bright, and glassy appearance which was unnatural. There was still a considerable amount of restlessness and during the previous night (the 28th) he slept very little. The restlessness, moreover, was accompanied by a muttering delirium and while there was general nervous activity there appeared to be no cognisance of, or voluntary response to, surrounding influences. At times there was rolling of the eyeballs; the pupils were equal, moderately dilated, and reacted normally; the fundi oculorum appeared to be normal. There was no direct evidence pointing to a meningeal affection. Examination of the bones revealed nothing to account for the restless and delirium. The temperature had not been high since admission; only on one occasion, when it registered 103·2°, had it risen above 102°. The colour was said to vary from time to time; at one time he was flushed and at another pale and blanched. The respirations, while they did not vary much in rhythm, were at times somewhat laboured. The chest moved freely and equably on respiration; the percussion note was still normal throughout; at the left base and extending up to the angle of the left scapula and into the left axillary region there was an area over which the inspiratory part of the respiratory murmur was accompanied by an articulate crepitant râle. At no part, however, could the breathing be said to have a tubular quality. Pleural friction was distinct in the left axillary region. The upper part of the left lung and the whole of the right lung were free from signs which would indicate serious complication. The condition of the heart had not changed. The pulse was regular but soft and easily compressed and numbered 148. The tongue was parched and coated with a brown fur. The throat was still slightly congested. The bowels moved regularly and the stools appeared to be normal. The patient took his nourishment willingly.

On Oct. 1st the child's condition had become progressively worse. Delirium was still present, the restlessness was extreme, and the keen glassy appearance of the eyes at once attracted attention. The temperature was not high, ranging a short distance on either side of 102°. The colour was pale with occasional flushings. The respirations varied from 50 to 60 per minute; the evidence of pulmonary complication was now unequivocal; all over the left base the percussion note was dull and resistant and the respiratory murmur was replaced by extremely tubular and superficial breath sounds. An exploratory puncture was negative. All over the rest of the chest there were occasional moist and wheezing râles accompanying the respiratory murmur, but at no other part was consolidation detected. The area of cardiac dulness had not changed. The first sound was weak and somewhat indefinite in tone but the second sound was distinct and emphatic. The pulse was regular in force and rhythm but easily compressible and numbered 140 per minute. The patient was having ten minims of a 10 per cent. solution of camphor every four hours. He took his nourishment of milk and water willingly; the stools were loose and very offensive and contained undigested material; he was rapidly losing flesh and a diet of raw meat juice and whey had been resorted to. On the 3rd any change that had taken place had been for the worse; there had been progressive emaciation and the patient was now very weak. The delirium was still present but the restlessness was modified; the eyes had still their bright, sharp appearance; the pupils were equal and reacted normally and the fundi oculorum were normal. The tongue was dry and coated. The patient did not take his nourishment willingly and there had been occasional vomiting. The stools were very offensive and loose. A specimen of the urine was acid in reaction, contained a trace of albumin, but no blood or tube casts. The physical signs in the chest pointed to a rapidly advancing process. The whole basal region of the left lung was quite dull to percussion and the breathing in this situation was exquisitely tubular. Exploratory puncture again gave negative evidence. On the right side of the chest a resonant note was found throughout, although there was a relative increase in the resistance to the percussing finger, as examination was carried from the axillary region to the vertebral column. At the angle of the right scapula the respiratory murmur was replaced by breathing of a tubular quality and crepitant râle was abundant; these signs of consolidation were present all over the posterior aspect of the right lung, but diminished in amount in proportion to the distance from the inferior angle of the scapula. In the right axillary region pleural friction was heard. The area of cardiac dulness extended on the right to the mid-sternal line and on the left to the nipple line and upwards to the third rib. The first sound was toneless and at times the second sound was indistinct. The pulse was regular in rhythm but irregular in force and was very feeble even at the acme of its strength. It numbered 180 per minute. The patient died at 2 A.M. on the morning of the 4th.

Summary of clinical history.—A child, aged one year and eight months, strong and well nourished and with a history of good health, was found suffering from an attack of measles associated with delirium. The rash appeared on the fourth day of illness and on that date, except for the delirium, there was nothing exceptional about the case. On

the sixth and seventh days of illness the rash had almost gone, but the temperature had not settled and the child was very restless and delirious. Evidence of commencing pulmonary consolidation could be detected at the left base but the nervous symptoms were not such as one might expect at the beginning of an uncomplicated pneumonia with moderate temperature (102°). Examination of the nervous system and of the bones afforded no evidence of the presence of meningitis or osteomyelitis. On the ninth day of illness delirium was still present and consolidation at the left base was so advanced as to suggest the presence of fluid. The patient died on the eleventh day from the onset of the measles symptoms and on the eighth day from the appearance of the rash and on the fifth day from the detection of the broncho-pneumonic signs. The most prominent features of the case were the persistent delirium with moderate temperature and the very rapid and advanced consolidation of the left pulmonary base.

Necropsy.—At the post-mortem examination the body was found to be well developed but poorly nourished, subcutaneous fat having almost entirely disappeared. The muscles were pale. There was slight congestion of the tonsils and pharynx but no evidence of ulceration. The mucous membrane of the larynx and trachea was greyish red, contained several ecchymosed patches, and was covered at parts with thin purulent secretion. There was no fluid in either pleural cavity. The left lung weighed eight and a quarter ounces; from its bronchus there exuded a quantity of thick creamy pus. The upper lobe with the exception of the atelectatic lingula was crepitant throughout, while the lower lobe was firm, œdematous, and non-crepitant. The upper lobe weighed one and three-quarter ounces, while the lower lobe weighed six and a half ounces and sank readily in water. The upper lobe had a pale greyish appearance except the lingula which was bluish-red. The lower lobe was dark red in appearance, presented numerous minute sub-pleural hæmorrhages, and was covered in its posterior aspect with a thin fibrinous exude. On section the upper lobe, except for the lingula, was inflated throughout its extent. A small quantity of thin purulent secretion was present in the bronchioles. The lower lobe was quite hepatised and from the cut surface there exuded a bloody and serous exudate, while thick creamy pus could be expressed from the bronchial apertures. The right lung weighed four and a quarter ounces and floated in water. A thick muco-purulent secretion could be seen in the bronchus. On its posterior aspect there was a layer of fibrinous exudate and posteriorly the organ had a brownish-red appearance with areæ of lobular collapse, while anteriorly the lung was grey in appearance and crepitant throughout. On section, a narrow strip of consolidation bordered the posterior aspect of the lung, varying in thickness from one-eighth of an inch to half an inch, and thickest at the centre of the posterior aspect of the lower lobe. From the bronchi there could be expressed drops of creamy purulent material; the bronchial mucous membrane was deeply injected. The bronchial glands were large, pale, and soft. The pericardial sac contained about one and a half ounces of straw-coloured fluid. The heart was contracted; at the extreme left of the base was a small area, about half a square inch in extent, rough and coated with a fibrinous exudate. The left ventricle was empty, the left auricle contained some partly coagulated blood, and in the right chambers were large white moist fibrin clots. Close examination of the mural endocardium revealed the presence of small yellowish specks which were about one millimetre in diameter (Fig. 2). The valves and great vessels appeared to be normal. The cardiac muscle was pale and soft. The abdominal cavity was devoid of fluid. The liver weighed 16 ounces; it was brownish-red in colour, with scattered pale areæ of about a quarter of a square inch in extent. Very minute yellowish specks from one millimetre to two millimetres in diameter were seen on the surface. The hepatic tissue was slightly congested and the gall-bladder was distended. The spleen weighed one and a quarter ounces. It was somewhat congested, of firm consistence, and the follicles were distinctly swollen. On the surface were seen minute yellowish specks, as in the liver and heart. The kidneys each weighed one and three quarter ounces. They were pale in appearance and the capsule came off easily. On the surface could be seen small yellow specks, rather larger than those in the liver and spleen, and section showed them to be minute abscesses. The cortex was yellowish-brown and the pyramids were pale. The mesenteric glands were pale, swollen, and soft. The stomach contained some greenish fluid and the mucous membrane, which was pale, was covered in parts with bile-stained slimy mucus. The skull appeared to be normal. The sinuses of the dura mater and the veins of the pia mater were distended with blood. The convolutions appeared to be distinctly flattened. The brain substance was soft, pulpy, œdematous, and anæmic, only the larger vessels containing blood. The ventricles were moderately distended and contained each about two ounces of clear serous fluid.

Bacteriological examination.—1. Film examination. Examination of smears from the bronchial exudate, pneumonic exudate, and spleen pulp showed the presence of Gram-staining micrococci, apparently staphylococci. 2. Cultural examination. Tubes of bouillon inoculated from the pneumonic exudate, spleen pulp, pericardial fluid, and cerebro-spinal fluid, and grown at 37° C., showed at the end of 24 hours growths of staphylococci. Separation cultures were made from the bouillon on to agar slopes and Petri's capsules and these presented colonies of staphylococcus aureus only. 3. Inoculation. From a fresh sub-culture of the growth in bouillon intra-peritoneal inoculation of a mouse caused death in 18 hours from septicæmia due entirely to staphylococcus aureus, and subcutaneous inoculation resulted in abscess formation with recovery.

Histological examination.—Histological examination of the tissue of the left lower pulmonary lobe pointed to an advanced inflammatory condition, commencing in the bronchioles. The smaller bronchi and bronchioles were filled with purulent and mucous material, together with desquamated epithelium and a few blood cells; the peri-bronchial capillaries and arterioles were very much dilated. (Fig. 1.) Some of the alveoli in the neighbourhood of the

FIG. 1.

Bronchiole filled with purulent exudation. The surrounding pulmonary tissue is infiltrated and the peri-bronchial capillaries are dilated. × 100. Stain, hæmatoxylin and eosin.

bronchioles showed the presence of a fibrinous exudate. The lung parenchyma, which appeared to be affected throughout, presented two kinds of changes: 1. Areæ in which there was dense purulent infiltration of alveoli, more especially in the neighbourhood of bronchioles. In addition to the numerous pus cells there were degenerate epithelial cells, a very few blood cells, and granular débris; the capillaries and arterioles were distended. 2. Areæ in which the changes were not so advanced; here the alveoli were small, the epithelium was swollen, with indistinct nuclei; there were numerous desquamated epithelial cells and granular débris; a few polymorphs and free blood cells were also present; the capillaries and arterioles were distended; the changes in these areæ corresponded exactly to the description given by Aufrecht of what he terms "alveolar atelectasis." Gram-Weigert stained sections showed, in addition to the fibrinous exudation in the alveoli near the bronchi, isolated cocci in the purulent contents of the alveoli and bronchi, and also

groups of cocci in the arterioles (bronchial) and capillaries. Examination of the heart, liver, spleen, and kidneys showed, in addition to the cloudy swelling usually seen in acute febrile conditions, the presence of a large number of minute abscesses varying in size from one millimetre to two millimetres in diameter. Gram-Weigert stained sections showed cocci in these abscesses and, in addition, minute arterioles and capillaries plugged with staphylococci. The condition in the heart might be taken as representative of what is seen in the other organs. Fig. 2 shows a small abscess beneath

FIG. 2.

Small abscess beneath the endocardium, showing a limited purulent exudation with the remnants of a few muscle fibres. × 100. Stain, hæmatoxylin and eosin.

the endocardium and Fig. 3 a capillary loop plugged with staphylococci.

Conclusions.—The main interest of the case arises from the relation of the symptoms to the pathological findings. While in measles, especially in young children, a certain amount of nervous disturbance not infrequently accompanies a high temperature, with the decadence of the fever the

FIG. 3.

Capillary loop beneath the endocardium in the muscular tissue, plugged with staphylococci. × 1000. Stain, Gram.

nervous symptoms always disappear. A true meningitis has not been recorded as complicating the onset of measles. In broncho-pneumonia, on the other hand, children often show signs of nervous disturbance; a commencing pneumonia is not infrequently associated with an appearance of nervous depression, the child being dull, languid, and apathetic, while in other cases there is a considerable restlessness. It is, however, in advanced and protracted cases that evidence of cerebral disturbance is most frequently seen; in such cases there is incessant restlessness, sometimes convulsions, and subsequent rigidity or paresis of muscles. These cases are usually fatal and on post-mortem examination no abnormality of the brain or meninges can be detected microscopically. In other cases, again, a pneumococcic meningitis with the usual signs and symptoms may complicate the broncho-pneumonia.

The case under consideration presented evidence of nervous disturbance which, while it suggested meningitis, resembled more the extreme restlessness and delirium usually associated with acute osteomyelitis, acute phlegmonous cellulitis, or a very severe scarlet fever intoxication. The pathological examination, in view of the clinical symptoms, suggests the idea that there occurred in the lungs a severe inflammation the constitutional clinical manifestations of which resembled those of acute inflammation of bone or cellular tissue. The history of the case may be considered as (1) an inflammation due to the presence of a virulent form of staphylococcus aureus, beginning in the smaller bronchi and giving rise to the signs of a pulmonary consolidation; (2) the rapid progress and profuse infiltration and exudation giving rise to complete consolidation and atelectasis of the left lower lobe; and (3) the exalted virulence of the organism producing such a growth in the blood as to give rise to embolic infections of the various internal organs, leading to small abscess formations; and (4) the whole process resulting from infection by a highly virulent organism, the constitutional symptoms of intoxication overshadowed the effects of the local pulmonary lesion.

I am indebted to Dr. A. Johnston, physician superintendent of the Ruchill Fever Hospital, Glasgow, for permission to publish this case.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF TUBERCULOSIS PULMONALIS WITH SOME SYMPTOMS OF MENINGITIS; RECOVERY.

BY WILLIAM BERTRAM HILL, M.B., CH.B. VICT.,
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THE patient was a man, aged 26 years, who was admitted into the Leeds Sanatorium for Consumptives on Oct. 3rd, 1905, suffering from pulmonary tuberculosis which involved the upper and middle lobes of the right lung. On admission he weighed 9 stones 11½ pounds and measured 5 feet 10½ inches in height. His temperature at 4 P.M. was 99·2° F.; his pulse and respirations were respectively 78 and 20 per minute. His sputum measured about a quarter of an ounce daily; tubercle bacilli were present. There was marked dulness over the upper and middle lobes with bronchial breathing and whispering pectoriloquy; there were no râles. He was ordered to spend the whole day in the open air and his exercise was limited to one mile. He remained in this condition until Oct. 22nd, on which day his temperature varied from 100·2° to 101°; his pulse and respirations were respectively 80 and 18 per minute. His bowels were constipated. He complained of slight headache and vomited twice after food. On the 23rd his temperature varied from 99·2° to 102·8°; his pulse and respirations were respectively 80 and 18 per minute; his bowels were confined; his headache was more severe. On the 24th his temperature was still higher, reaching 105° at 4 P.M. The pain in the head was much increased; it was vertical in character, continuous, and at times was so acute that he cried out. He vomited after taking soda water and milk. His pulse was 80 per minute, full and bounding in character. At time she was slightly delirious. On the 25th it was noticed that there was an internal strabismus of the right eye and that the pupils were contracted, but reacted to light and accommodation. The patient himself complained that he did not seem to see

rightly. Ophthalmoscopic examination, however, revealed nothing abnormal. His temperature varied from 104° to 105°. Constipation and vomiting were present. The patient remained in this state until Nov. 7th. The strabismus was now well marked and complete constipation and severe headache were present. Only milk in small quantities was administered and this was occasionally returned. Ice was kept to the head and enemata and calomel were given to overcome the constipation. The muscles of the legs and arms showed neither paralysis nor rigidity and there were no convulsions. No enlargement of the spleen was made out, neither was there any involvement of the sphincters. The temperature still remained between 103° and 105° and was controlled by tepid sponging. At times the patient was slightly comatose. Occasionally, especially towards morning, he broke out in profuse sweats. On Nov. 7th he became a little clearer mentally and his temperature was slightly lower, varying from 100° to 100·4°. The headache was not so severe but the squint was still well marked. On the 8th his temperature varied from 99·6° to 100°; his pulse and respirations were respectively 80 and 20 per minute. The squint was still present. His mental condition was much improved and he was able to take more nourishment. On the 9th the temperature varied from 99° to 100°; the pulse and respirations were respectively 80 and 20 per minute. The squint was not so marked and the bowels were opened naturally. From this date the patient improved rapidly each day, the squint gradually disappearing and the temperature becoming lower, until it reached normal on the 14th, by which time also the eye symptoms had quite disappeared. Examination of the chest showed that there had been no increase in the physical signs. He remained in the sanatorium until January, 1906, on which date he was discharged. He then weighed 9 stones 12 pounds, the temperature was normal, and there was no sputum; his chest signs were as on admission. He was last seen on March 6th. There was then no increase in the physical signs and no loss of weight. His temperature was normal and his eyes were perfectly normal.

I am indebted to Mr. Herbert de Carle Woodcock for permission to publish this case.

A SEVERE CASE OF MYOCLONUS MULTIPLEX.

By CAMPBELL DYKES, M.B. LOND.,
CAPTAIN, I.M.S.

THE patient, who was a man, aged about 35 years—a Hindu and a Brahmin by caste—first came under observation in July, 1905. The muscular spasms of which he complained had then been noticed for five months. The left arm was first affected, then the neck, and later the right arm. When he was first seen the whole upper part of the body was in a state of constant jactitation, the arms were violently extended at the elbows, the spine was arched, the head was over-extended, and the shoulders were drawn back. Neither the patient nor any of his family had ever suffered from epilepsy or any other nervous disorder.

On the patient's admission to hospital the earliest stage of the disease was seen in the rectus and obliquus externus abdominis and the gluteus maximus and tensor vaginæ femoris of both sides. In these muscles momentary contractions of a limited portion of the muscle were seen to occur, occasionally single but more often in definite groups of four or five occurring together. The corresponding muscles of opposite sides were involved but did not contract synchronously. So far the patient was completely unconscious of this early stage of the disease. A much more advanced stage was illustrated in the upper limbs, neck, and back. At uncertain and variable intervals a muscle or group of muscles, such as the triceps, the trapezius, or one or more of the muscles attached to the vertebral border of the scapula, suffered a succession of contractions, following each other so rapidly that a more or less complete "tonus" was produced. The bulk of muscle affected here—in contradistinction to those first described—was so considerable that "locomotor" effects were produced: the forearm was forcibly extended on the arm and the head on the trunk, the trunk itself was arched backward, and the shoulders were drawn back. When the attack was at its height several or all of these effects were produced together or followed each other in rapid but irregular sequence. Each contraction appeared to last two or three minutes, then followed a short period of rest, then a fresh series of contractions, till apparently sheer exhaustion of the muscle brought temporary relief. The flexor muscles of the arms and the deltoids as also all the muscles of the forearm remained unaffected. The pectorals were for a long time unaffected but have recently shown the partial contractions described in the case of the abdominal muscles.

The muscles of opposite sides of the neck and trunk usually act coördinately producing extension directly backwards, but occasionally one sterno-mastoid contracts alone and lateral flexion of the lumbar spine has been recently noticed to occur. Voluntary movements of the upper part of the trunk and upper limbs are naturally much interfered with but can be fairly accurately executed if they require but momentary effort. There is no true ataxy. The gait is affected only indirectly. It remains but to notice that while the extrinsic muscles of the eyeballs have escaped, the orbicularis palpebrarum shares in the spasms which during their continuance can only be momentarily checked by voluntary effort so as to allow of a single glance being directed at an object. Extraordinary facial contortions are produced by irregular contractions of the lip and face muscles.

The patient himself believes that the movements are less violent when he is lying down than when he is sitting or standing, but I cannot satisfy myself that this is so. The movements cease entirely during sleep and his general health is unaffected except by the painful fatigue which results from the muscular contractions. The knee-jerks are exaggerated. There is no ankle clonus or any affection of sensation.

Of late the disease has begun to affect some fresh muscles, the hamstrings, pectorals, temporals, and masseters, and during the eight months that he has been under observation the abdominal muscles, of which at first only small segments suffered, have become more severely affected. Great relief has been experienced from the use of preparations of belladonna, whether administered internally in the form of the extract or hypodermically as a solution of atropine, and from the application of the constant current to the spine. The amelioration, however, is very temporary, lasting only for two or three hours or less. No benefit has resulted from the use of arsenic or bromide, though pushed to the limit of toleration.

Shortly after the onset of the disease the patient began to take opium but although he has taken as much as 24 grains a day no good effect can be attributed to it. In spite of the temporary mitigation of symptoms by treatment, the disease shows a distinct tendency to increase both as to violence of movement and as to the groups of muscles involved. Appetite and sleep remain unimpaired as yet but the patient finds his condition so miserable, partly from his inability to follow any of his ordinary occupations or even to feed himself without great difficulty and partly from his having become an object of ridicule or aversion to his neighbours, that he has already once attempted suicide by throwing himself into the Ganges.

Fatehgarh.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

BRADFORD ROYAL INFIRMARY.

THREE CASES OF MYELOID LEUKÆMIA.

(Under the care of Dr. H. J. CAMPBELL.)

FOR the notes of the cases we are indebted to Dr. A. W. Falconer, house physician.

CASE 1.—A man, aged 26 years, was admitted to the Bradford Royal Infirmary on March 28th, 1906, under the care of Dr. H. J. Campbell. For some weeks he had not been feeling well and had been treated by his medical man for debility. A fortnight before admission he was suddenly

seized with severe pain in the back of the head and dizziness. He had to go to bed on account of the pain and in the course of a few days he became quite deaf and was unable to walk on account of staggering. After the first day the pain in the head left him. He had no vomiting. There was no history of any hæmorrhages or of pain in the abdomen. On admission the temperature was 100° F., the pulse was 100, and the respirations were 20. He was a fairly nourished man, not markedly anæmic, and his mental condition was quite bright, but he was absolutely deaf. There were a few of the inguinal glands as large as peas and one or two of the cervical glands were also palpable. There were no tenderness over the sternum or the long bones and no skin changes. With regard to the abdomen there was splenic dulness in the nipple line from the sixth rib to the level of the umbilicus. Anteriorly the spleen extended to within two inches of the umbilicus and posteriorly filled the left lumbar region. It was quite smooth and hard, not tender, and moved freely between the hands. The liver dulness extended from the sixth rib to two inches below the costal margin in the nipple line. It was quite smooth and not tender. As to the mouth, the tonsils were not enlarged and the mucous membrane was normal. With regard to the nervous system, the cranial nerves, with the exception of the second and eighth, were normal. There was intense double optic neuritis in both eyes; the swelling of the right disc was + 7 and of the left + 6 dioptres. In both macular regions were several small greyish-white more or less circular patches about one-sixth of the size of the optic disc. These were not raised and had a peculiar half-veiled appearance. In the periphery of both fundi were numerous dead white patches, many of them larger than the disc. They had a granular appearance and were distinctly raised, covering in many places the retinal vessels. There were also numerous hæmorrhages throughout both fundi. Hearing was quite absent in both ears. There was no bone conduction but some tinnitus. As to the limbs there was no paralysis or rigidity; the superficial, deep, and organic reflexes were normal, and sensation was normal. The gait was very markedly staggering, the patient being unable to walk alone. He seemed to have had more tendency to fall to the right than to the left. The heart, the lungs, and the urine were normal. An examination of the blood showed: hæmoglobin, 50 per cent.; red cells 2,350,000 and white cells 845,000 per cubic millimetre; myelocytes, 56·4 per cent.; polymorphonuclear neutrophiles, 38·2 per cent.; eosinophiles, 4·4 per cent.; lymphocytes, 0·8 per cent.; mast cells, 0·2 per cent.; and there were numerous nucleated red cells. On the second day after admission the temperature fell and remained normal till the fourth day, when the patient became aphasic and died within an hour. No post-mortem examination was obtained.

CASE 2.—A boy, aged six years, was admitted to the Bradford Royal Infirmary on March 22nd, 1906, under the care of Dr. Campbell. The patient had not been well for some months. He had no definite pain but did not care to run about. He had been attended by a medical man for six weeks for anæmia. There was no history of any hæmorrhages. He was a poorly nourished boy and was very markedly anæmic. There were numerous small glands in both inguinal regions and in the cervical regions on both sides. The glands were of about the size of small peas, moderately hard, discrete, freely moveable, and not tender; there was no tenderness of the sternum or of the long bones. The spleen was enormous. The dulness began in the nipple line at the sixth rib and extended into the abdomen, crossing the middle line one inch above the umbilicus and extending one and a half inches to the right of the middle line at the level of the umbilicus. From there it curved down to the left to the pubes and seemed to extend into the pelvis. Posteriorly it filled the whole left lumbar and inguinal regions. The liver extended half an inch below the costal margin. The nervous system was normal. The fundus oculi was normal. There were hæmic murmurs at the base and the apex of the heart. A blood count on March 29th showed: hæmoglobin, 45 per cent.; red cells 2,260,000 and white cells 146,970 per cubic millimetre: myelocytes, 36 per cent.; polymorphonuclear neutrophiles, 47 per cent.; eosinophiles, 5 per cent.; lymphocytes, 2 per cent.; and mast cells, 10 per cent. There were a fair number of nucleated red cells. Another count on April 6th showed: hæmoglobin, 45 per cent; red cells 2,220,000 and white cells 71,871 per cubic millimetre; myelocytes, 38·4 per cent.; polymorphonuclear neutrophiles, 45·2 per cent.; eosinophiles, 4·4 per cent.; lymphocytes, 4·8 per cent.; and mast cells, 7·2 per cent. The patient only remained a fortnight in hospital when he was taken away by his parents. His temperature rose to between 100° and 101° F. at night and his general condition remained much the same.

CASE 3.—A woman, aged 35 years, was admitted to the Bradford Royal Infirmary on Dec. 9th, 1905, under the care of Dr. Campbell. 12 months before admission the patient noticed a swelling in the left side. In May of this year she was an in-patient at the hospital with myeloid leukæmia. She remained in until July and was treated with the x rays. During the treatment the spleen, which extended below the umbilicus, rapidly disappeared till it could not be palpated. The blood condition showed little change. After leaving hospital the patient felt fairly well, but after about two months the spleen began to grow again. On admission the patient was found to be fairly nourished. There were no enlarged glands felt; the spleen extended to the umbilicus and to within one inch of the anterior superior iliac spine. An examination of the blood on Dec. 15th, 1905, showed: hæmoglobin, 45 per cent.; red cells 3,486 000 and white cells 191,666 per cubic millimetre; myelocytes, 35·9 per cent.; polymorphonuclear neutrophiles, 60·3 per cent.; eosinophiles, 1·5 per cent.; mast cells, 0·8 per cent.; and lymphocytes, 2·5 per cent. The patient was exposed to the x rays over the splenic region for ten minutes three times a week. She was treated for three months and at the end of that time she went home *in statu quo*, the spleen not having diminished and the blood count being: hæmoglobin, 40 per cent.; red cells 3,800,000 and white cells 196,875 per cubic millimetre.

Remarks by Dr. FALCONER.—It seems justifiable to call Case 1 a case of true acute myeloid leukæmia. There was no history of any discomfort for more than six weeks before the fatal issue. The size of the spleen is, perhaps, somewhat against it, but though it extended to the level of the umbilicus it was not a very large spleen, most of the enlargement being downwards and not nearly to the same extent transversely. The nervous symptoms resembling Ménière's disease are also uncommon in myeloid leukæmia. The occurrence of definitely raised white spots in the retina according to Lazarus,[1] though not infrequent in lymphatic leukæmia, has not yet been described in myeloid leukæmia. The blood was that of typical myeloid leukæmia except that the percentage of mast cells was rather low. Case 2, of myeloid leukæmia in a child, is also extremely rare, there being only six cases in the literature. It presented no features differing from myeloid leukæmia in the adult. I am indebted to Dr. Campbell for permission to publish these cases.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Achondroplasia.

A MEETING of this society was held on May 8th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Dr. GUTHRIE RANKIN and Mr. ERNEST C. MACKAY, in a paper on Achondroplasia, said that the disease, though comparatively recently recognised, was of ancient origin. Mr. George Pernet had pointed out its illustration in the Egyptian statues of the British Museum, notably the god Ptah, and Charcot and Richet had shown that the dwarfs of Philip IV., painted by Velasquez, were probably achondroplasiacs. It had escaped notice largely because most children suffering from the disease were stillborn or did not long survive birth. The survivors were formerly looked upon as examples of either cretinism or rickets. The earliest record was Sömmering's case, published in 1791, which he left unclassified. Busch in 1836 published a second which he called congenital rachitis. But it was the observations of Müller, published in 1860, which showed that the disease was one of primordial bone cartilage and that the inhibition of the growth of the long bones, one of its prominent characteristics, was due to a disturbance of the normal arrangement in rows of the proliferating cartilage

[1] Nothnagel's Practice of Medicine, American edition, 1905.

cells. The early confusion with "fœtal" rickets was traced in the papers of Shattock, Barlow, and others, and was illustrated by a reproduction of an engraving in Liston's "Surgery," published in 1840 of a skeleton which exhibited the distinctive landmarks of achondroplasia and which the author referred to as a "curious case of congenital rickets." The general appearance of an achondroplasic child was characteristic. He was a dwarf, with large head, pug-shaped nose, short and often bowed limbs, a prominent abdomen, and marked lordosis. The figure was stunted by shortening of the legs out of proportion to the size of the trunk. The arms were also short and the finger tips never reached the level of the hips. The limbs, besides being short, were usually bent and deformed. The central point of the body was above the umbilicus and might be as high as the ensiform cartilage. The abnormal size of the head was caused by undue development of the vault of the cranium There were recession of the base of the nose and prognathus, produced by premature synostosis of the basilar and sphenoid bones, giving rise to deficiency in length of the base of the skull. The lips and eyelids were thickened and, from excess of subcutaneous tissues, there was exaggeration of natural dermal folds. The tongue might be enlarged and protruding. The hair and skin were natural. The fingers and toes were short and spatulate. The hands were fore-shortened and fat with fingers of equal length which tapered to their extremities and separated at the middle phalangeal joints, especially the middle and ring fingers. The shortened bones were thickened transversely and more or less enlarged at their ends, but the change seemed to arise in the diaphyses rather than the epiphyses, which were altered in some cases only. The bones formed in membrane or developed from cartilage late in uterine life were unaffected. The mental faculties remained unimpaired. The etiology was uncertain; it had been attributed to syphilis, heredity, and consanguinity of the parents—all on insufficient evidence. It was an early "disturbance of metabolism in some unknown way." Calcification proceeded normally, as did periosteal bone formation, but growth in length might be interfered with or stopped by a periosteal inclusion attributed to an "outgrowth of the epiphysis beyond the peripheral diaphysial line, causing an involution of periosteum, which subsequently proliferates." The stunted long bones, the shape of the hands, the lordosis, the sunken nose, the high mid-point of the body, and the congenital origin were leading features of achondroplasia distinguishing it from rickets. In cretinism the mental feebleness, vacant expression, vicious habits, and trophic changes of skin and hair were all differentiating features.

Dr. HOWARD H. TOOTH said that he did not think the term "lordosis" should be applied to the deformity present in the patient exhibited; the buttocks were unduly prominent and there was a hollow immediately above them, but the back and spine were quite straight and showed no true lordosis.

The PRESIDENT pointed out that the spine in the skeleton shown in the reproduction of the engraving was quite straight and he thought that the apparent lordosis was due to two factors: first, to the tilting of the pelvis, and secondly, to the protuberant abdomen which was due to the flaccidity of the abdominal muscles. He considered it probable that there was a rickety condition added to a congenital deformity.

Mr. STEPHEN PAGET did not think that the nasal bones were deficient and was of opinion that the flattening of the nose was not more than might be seen in normally developed children. Arrested growth of the nasal bones was not uncommon in children and gave rise to a pug-shaped nose.

Dr. RANKIN replied.

OBSTETRICAL SOCIETY OF LONDON.

Epithelioma of the Vulva.—Laminaria Tents.—Exhibition of Specimens.

A MEETING of this society was held on May 2nd, Dr. W. R. DAKIN, the President, being in the chair.

A short communication on Three Cases of Epithelioma of the Vulva with the history subsequently to operation was read by Dr. A. H. N. LEWERS: 1. A multipara, aged 47 years, had a malignant growth—squamous carcinoma—removed from the right side of the vulva on Dec. 7th, 1896, and the glands in the right groin were removed at the same time. A small growth reappeared on the left side of the vulva about two years later and was removed in December, 1898. In January, 1899, the glands in the left groin were removed. A small growth reappeared on the left side of the vulva and was removed on March 9th, 1901. Since that time the patient had remained quite well. She was examined and found free from recurrence on March 8th, 1906—over nine years since the first operation and almost exactly five years since the date of her fourth and last operation. 2. A multipara, aged 52 years, had a malignant growth—squamous carcinoma—of the clitoris removed on Sept. 1st, 1899. The glands were at the same time removed from both groins. The patient was known to be well and free from recurrence on March 11th, 1906. 3. A multipara, aged 34 years, was operated on for a malignant growth—squamous carcinoma—of the vulva on March 31st, 1905. She was eight months pregnant at the time. Labour came on four days later and she was delivered naturally of a living child. On May 4th the glands in both groins were removed. The disease rapidly recurred in the same place and the growth was again removed on June 20th. The growth again recurred soon afterwards and she underwent the x ray treatment from August 11th to Sept. 9th without benefit. She died about three months afterwards. Attention was directed to the fact that local recurrence in cases of epithelioma of the vulva was not necessarily of unfavourable significance, as illustrated in the first case. Case 3 was remarkable in being an example of epithelioma of the vulva occurring in a patient no more than 34 years of age and in being complicated by pregnancy. In this case the growth ran an exceedingly rapid course, which might possibly have been due partly to the pregnancy and partly to the fact that the patient was only 34 years of age; Dr. Lewers considered that removal of the growth by Paquelin's cautery was a better method than removal by the knife. The specimens from Cases 1 and 2, in which the disease did not recur, together with sections of the growth, were exhibited.—Mrs. STANLEY BOYD referred to cases on which she had operated for epithelioma of the vulva in which 11 and nine years had elapsed without recurrence after a second operation. She preferred removal of the growth by the knife, with suture, to Paquelin's cautery.—Dr. HERBERT R. SPENCER referred to cases that he had operated on, one remaining well for eight and a half years and another for three years. In another case several operations had been performed and the patient now, 13 years after the first operation, had recurrence in the pelvic glands. He advocated removing the whole of the vulva in order to get rid of the leukoplakial skin.—Dr. J. INGLIS PARSONS having advocated removal by the cautery, Dr. LEWERS replied.

Sir WILLIAM J. SINCLAIR then gave a demonstration on the Use of Laminaria Tents. He showed a large number of specimens of the material from which the tents were made, illustrating the various stages in their manufacture. The specimens of laminaria exhibited were obtained from islands on the West Coast of Scotland, from Coll and Iona and others. He considered the laminaria from the district mentioned was superior to that hitherto in the market. He had observed with regret how much the use of laminaria tents for dilating the cervix had gone out of fashion, as he considered dilatation by the use of tents far superior to that obtained by the use of rapid dilators. Very serious results were liable to be produced by rapid mechanical dilatation, more especially in the hands of those with little gynæcological experience.—Dr. HEYWOOD SMITH said that larger tents were made by pegging together sections of the material, a process which might cause irregular dilatation or even lead to breaking up of the tent. He was glad to see from the specimens shown that it would be possible to obtain tents as large as could be wanted in a single piece.—Dr. AMAND J. M. ROUTH had had an opportunity of testing the tents and had found them quite as good as those sold in London.—Dr. R. BOXALL remarked that the main objection offered to the use of tents was the inherent possibility of infection, but by dry heat laminaria tents could be not only sterilised but improved in quality, a process which could be accomplished, if necessary, in the domestic oven.—Dr. G. E. HERMAN did not think laminaria was as much out of fashion as Sir William Sinclair supposed. It had been used for 30 years or more in the London Hospital. He did not like tents made of several pieces of laminaria glued together, for the glue was very possibly septic He was surprised to hear anyone say that the dilating force of laminaria was weak, for Matthews Duncan had shown that laminaria was capable of exerting a force of 640 pounds to the square inch.—Dr. PARSONS thought that, on the whole, dilatation with metal dilators was preferable to dilatation by tents.—Mr. W. GANDY said that some years ago he used

nothing else but tents to dilate the cervix and he felt that with ordinary care no harm could befall the patient.—Dr. SPENCER was surprised at Sir William Sinclair's statement that laminaria tents had gone out of fashion. They had been used continuously at University College Hospital for the last 25 years. He could not imagine that any gynæcologist would dilate a rigid senile cervix in order to explore it with the finger by rapid dilatation.—Dr. LEWERS said that it was important to bear in mind the degree of dilatation of the cervix required in choosing between dilatation by the rapid method or dilatation by laminaria tents. In many cases it was certainly impossible to dilate the cervix sufficiently to allow of the introduction of the finger into the uterus by the rapid method without causing laceration. It had to be borne in mind that when a laceration occurred it could not be limited in any way at the will of the operator. It might be a slight and unimportant laceration or it might extend right through the uterus into the broad ligament or peritoneal cavity. As a rule, Dr. Lewers used tents the day before he required exploration, and then, under an anæsthetic, if necessary passed a few sizes of Hegar's bougies.

Dr. LEWERS showed two specimens of Large Uterine Fibroids undergoing necrobiosis, or red degeneration.

Dr. F. J. MCCANN showed (1) Cervical Fibroid; (2) Broad Ligament Cyst with torsion of the pedicle; (3) Primary Cancer of the Vagina; and (4) Sarcoma of the Vagina.

Dr. W. W. H. TATE showed a large Fibroid.

Dr. PARSONS exhibited a Fibro-myoma of the Vulva in an unusual position.

HUNTERIAN SOCIETY.

Discussion on Syphilis.

A MEETING of this society was held on April 11th, Mr. JOHN POLAND being in the chair.

Mr. JONATHAN HUTCHINSON opened the discussion with a reference to the mortality from syphilis. This reached a maximum in 1875—viz., 2140, against 1834 in 1904, although allowing for increase of population the figure should be 3000. Not only was the disease on the decline but it was generally considered to be milder in type as a result of more effectual treatment. Judd and his followers (1835–38) obtained excellent results without mercury, using iodide of potassium, but the use of this drug securely established the mercurial treatment and led to a better knowledge of the precise uses of both of them. A century since all venereal sores were treated by mercury. When the non-syphilitic nature of many such sores was recognised mercury was withheld until secondary symptoms were manifested, and this period of withholding mercury coincided with the increased mortality. Lastly, when the small dose plan was introduced, mercury was robbed of its terrors and was employed at the earliest moment with a view to the suppression of the secondary stage. Ptyalism is objectionable and injurious. As much mercury as can be borne should be introduced into the blood. Everything that mercury could do could be conveniently effected by the one-grain grey powder pill with Dover's powder taken from three to seven times daily. Mr. Hutchinson advanced the following propositions. 1. It was now almost universally acknowledged that mercury ought invariably to be given in the primary and secondary stages of syphilis. 2. That the earlier it was begun the better, provided the diagnosis be certain. 3. That it was possible to prevent entirely and to anticipate the secondary symptoms, an opinion which he had advocated for 25 years. 4. That the suppression of the secondary stage to a large extent prevented tertiary symptoms which were developed in the actual site of the secondary manifestations. 5. That many chancres were sufficiently characterised to justify immediate treatment. 6. That as much mercury should be given as the patient could bear, avoiding diarrhœa and ptyalism. 7. That continuous treatment was much preferable and should extend over at least 12 months. 8. That at this stage the object was to kill the parasite. In the tertiary stage the destruction of the parasite was no longer the object of treatment. Tertiary changes were often single, very rarely indeed general, often restricted to one organ or one tissue, and there was no reason to regard them as of blood origin, whether toxic or otherwise. The parasite was, in fact, no longer existent. 9. That tertiary symptoms were commonest where early treatment had been delayed or inadequate. 10. That there was good reason to believe that syphilis was becoming less prevalent and less severe in Britain and that this was largely due to the widespread adoption of the long-continued and small-dose method of treatment. 11. That the inunction and calomel vapour-bath methods were both efficacious but inconvenient and expensive and liable to be prematurely discontinued. 12. That intramuscular injections were very dangerous, excepting in the hands of the expert, and should be wholly reserved for special conditions, chiefly in the army. If salivation commenced it could not be stopped except by the excision of the portion of muscle containing the mercury. 13. That tertiary symptoms were (*a*) inflammatory; (*b*) degenerative; or (*c*) gummatous; and that the iodide of potassium internally, and iodoform, iodol, and chinosol externally, were specifics and often produced permanent cure of gummatous growths. Degenerative changes such as tabes were, on the other hand, rarely arrested by specifics. All conditions attended by inflammatory changes, such as general paralysis of the insane, should be treated by small doses of mercury continued permanently. In his belief, if treatment of general paralysis were commenced in the very early stage, a cure might be obtained, but small doses of mercury must be permanently continued. 14. Tuberculosis sometimes complicated tertiary syphilis. Syphilitic lupus was a combination of the two and some "relapsed chancres" were tuberculous. 15. With reference to marriage, if the treatment had been continued for two years from the date of the chancre, a man might safely marry, but a much longer period was necessary for a woman. 16. As regards inheritance a man with tertiary symptoms might have quite healthy children. Syphilis could not be transmitted to the third generation. The fact that younger children in syphilitic families were free from the syphilitic taint and were well grown and robust was opposed to the belief that the disease, when incapable of transmitting its characteristic symptoms, might still cause arrest of development. Nor was syphilis an appreciable cause of degeneracy of the race. The Fijians, who had had syphilitic framboesia from time immemorial, were not a degenerate race. Mr. Hutchinson concluded by mentioning a supposed fact for which he knew no explanation. Why was syphilitic infantile iritis, and to a less degree keratitis, more common in female infants than in males? They knew little of differences in the character of the disease as affected by sex and by inheritance from the father as compared with the mother.

Dr. G. H. SAVAGE mentioned, first, the occasional occurrence of acute mania in syphilitic fever, as in alcoholism and influenza. With reference to the effects of syphilis on neurotic and non-neurotic persons statistics showed that the former were liable to tabes whilst the general paretics were, as a rule, non-neurotic. Dr. Savage agreed with Mr. Hutchinson that treatment had altered the character of syphilis. Gummata had become comparatively rare in post-mortem experience. On the other hand, there was a certain number of cases of acute mental disorder, associated with cranial nerve symptoms, hemiplegia, or epilepsy, which followed acute syphilis and which might possibly depend upon a gumma. More chronic mental disorders, with similar local manifestations, might also result from syphilis. Some went on to general paralysis of the insane which under Mr. Hutchinson's continuous treatment might not occur. Many cases of general paralysis showed an early history of temporary aphasia or monoplegia which were forgotten after perhaps brief treatment by iodides. Early syphilitic changes might affect any part of the nervous system. There was also a more general and diffuse disorder of the cortex associated with syphilis. For example, cases of marked hysteria in middle-aged men who had had syphilis in former years, although they might temporarily recover, usually end in general paralysis. A large number of general paralytics with a syphilitic history commenced as ataxics, the ataxy preceding the paralysis by some years. Progressive mental degeneration might be associated with syphilitic endarteritis. The nutrition of any part of the brain might be interfered with, with alteration in the balance of mind, ending invariably in dementia. Dr. Savage pointed out that the memory was not markedly affected in these cases; sometimes, as in advanced stages of general paralysis, there was a quite remarkable retention of memory, whilst in other forms of progressive mental decay, associated with alcoholism or senility, the loss of memory was the chief characteristic. With reference to the causation of general paralysis, it had been pointed out that among certain races—the Arabs and perhaps the Japanese—syphilis might be prevalent and general paralysis very rare. It was also said to be unknown amongst

Negroes and amongst the Irish. In Dr. Savage's opinion syphilis required something more in order to produce this disease, alcoholism, worry and the stress of life, and perhaps large meat-eating. Fewer women than men were affected. It rarely came on within ten or 12 years, more frequently between 15 and 20 years after primary infection. Mental symptoms, insane interpretations, might also be associated with syphilitic locomotor ataxy. On the psychical side, Dr. Savage referred to syphilophobia of adolescents and the more dangerous syphilitic hypochondriasis of middle aged and older men. In the latter condition the patient might have some "stigmata" of old syphilis, giving rise to various beliefs and delusions. One class of patients believed themselves to be shunned or insulted. These were often suicidal. Others believed themselves centres of contagion and were intensely suicidal or homicidal.

Dr. PURVES STEWART pointed out that in many cases syphilis of the central nervous system was, so to speak, accidental and affected the non-nervous tissues and only secondarily the nerve elements. Thromboses, aneurysms, and gummata did not spring from nerve tissue, although the symptoms were nervous. This class of disease was not at all confined to the tertiary period but might occur at any stage, even when the chancre was still present. In another class of syphilitic nerve disease the nerve elements underwent primary dystrophy with production of sclerosis, which was a secondary change. Syphilitic spastic paraplegia, in which the bladder symptoms were prominent, might belong to this class. This often developed within a year of infection. Tabes and general paralysis might be regarded as two varieties of one disease, a syphilitic affection of nerve elements. Dr. Stewart then described the results of his own observations on the cerebro-spinal fluid. A microscopic field from centrifugalised normal fluid contained perhaps one or two endothelial cells and as many leucocytes. In functional nervous diseases, in epilepsy, paralysis agitans, and disseminated sclerosis the cerebro-spinal fluid was apparently normal. With organic diseases of the nervous system, acute microbic meningeal affections, and suppurative diseases of brain or membranes, the fluid contained polynuclear leucocytes. In the case of chronic nervous affections, tuberculous and syphilitic, there was always great excess of lymphocytes, usually monomorphic. In syphilis without nervous affection there was no excess. In gummatous affections of the nerve centres the excess was marked but in tabes and general paralysis the leucocytosis was constant and extremely well marked, the average being 130 to the field. The presence of leucocytosis was of great diagnostic importance, for example, as between tabes and peripheral neuritis and between general paralysis and epilepsy. In order to exclude syphilis of the nervous centres it was not necessary now to suspend judgment pending the use of iodide and mercury.

Dr. W. HALE WHITE said that our knowledge of visceral syphilis dated from the paper of Sir Samuel Wilks in 1863. It was an interesting fact that, with the possible exception of the heart, syphilitic endarteritis in the viscera was not of any clinical importance and was, in fact, not met with, which was in striking contrast to its great importance in the nerve centres. Another syphilitic affection of the viscera—lardaceous disease—was now much less frequently met with, as a result of improved surgery and also, no doubt, of the declining severity of syphilis. Congenital syphilis occasionally produced marked lardaceous disease. In syphilitic laryngitis specific treatment was often useless unless the part was rested by tracheotomy. Abductor paralysis might be the earliest indication of tabes. Syphilitic ulceration or stenosis of the trachea might be met with apart from laryngeal affection and usually occurred near its bifurcation with impaired entry of air in one lung. Syphilis of the lungs was excessively rare and the diagnosis was not justified. The frequency of congenital syphilis of the lungs had been enormously exaggerated. No museum in London contained a specimen of it and he doubted if such a condition existed. The acquisition of syphilis usually greatly accelerated phthisis, whilst it was also true that a syphilitic patient was more liable to phthisis than others. In the heart gummata were rare and the diagnosis a bold one. The late Dr. C. H. Fagge had shown that a large proportion of the cases of fibroid disease of the heart were syphilitic, and that there was a peculiar liability to sudden death in this affection. Since Dr. Fagge's paper in 1874, 11 cases of sudden death due to this disease had been recorded at Guy's Hospital, of which five were syphilitic. The fibrosis should be looked for in the inter-ventricular septum. With reference to valvular disease he (Dr. Hale White) held that the aortic valves were rarely affected alone in rheumatism. Therefore cases of aortic without mitral disease might be attributed to atheroma, or strain, or syphilis; and in women, as strain was rare, aortic disease was strong evidence of syphilis. The same applied to aneurysm. Dysphagia was sometimes due to syphilitic ulceration of the pharynx or the œsophagus. Gummata were almost unknown in the stomach and intestines, but syphilitic ulceration and stricture occasionally occurred in the rectum in women, with symptoms of chronic obstruction. In the liver syphilis occurred as gummata or fibrous bands but was far less common than formerly. It was never accompanied by jaundice. In syphilis the liver was seldom so large and uneven, and seldom increased in size so rapidly as in malignant disease. Congenital syphilis produced a similar condition. He agreed with Mr. Hutchinson that the largest gummata of the liver were curable. That was about the only form of visceral syphilis in which a diagnosis was commonly made, because the other conditions were so rare.

Dr. HALE WHITE exhibited a beautiful selection of specimens from the Guy's Hospital museum illustrating the various conditions which he had described.

Mr. T. P. BEDDOES said that the essential factor in the Zittman treatment appeared to be heat, the patient being kept in a small room at 80° F., and connected this fact with the slight incidence of tabes and general paralysis in hot countries. He doubted whether alcohol had much part in the causation of the latter diseases as there seemed to be no difference in their occurrence in Turkey, where many of the population were teetotalers, and in Brazil where there was much alcoholic excess. Both Brazil and Turkey have much syphilis and in both countries tabes and general paralysis are extremely rare.

The adjourned discussion was continued on April 25th, Dr. F. J. SMITH, the President, being in the chair.

Dr. THEODORE SHENNAN described and demonstrated Spirochætæ in Syphilitic Lesions. Two spirochætæ were found commonly in the lesions of primary and secondary syphilis—viz., the spirochæta pallida, which many thought was the cause of syphilis, and the spirochæta refringens, which was specially found in ulcerated lesions and had already been described as a saprophyte in various secretions and tissues. The spirochæta pallida was more delicate than refringens, possessed closer spirals, showed more motility, and was more difficult to detect and to demonstrate. It had been found in congenital syphilis, in the organs and blood, as well as in the acquired disease, but, according to most observers, never elsewhere and never in tertiary syphilis. It was also found in experimental syphilis in the monkey. Certain loop-shaped bodies which seemed to have some relationship to the development of a spirochæta form were then described. These were to be found commonly in skin lesions and in indurated buboes. Dr. Shennan concluded with a lantern-slide demonstration and showed microscopical specimens with the parasite *in situ*.

Dr. G. F. STILL alluded to the occasional occurrence of acquired syphilis in children, which had been stated to be highly contagious. Contrary to the opinion of some recent writers, he held that the risk of contagion from the inherited disease was very small. Among a large number of children he had never known one case of infection, although such cases had been reported and the spirochæta had been found in the bullæ of syphilitic pemphigus of the newly born. In addition to the very considerable mortality from stillbirth and miscarriage, there was incapacity in the survivors, from keratitis, iritis, and nerve affections. As many as 10 per cent. of the children showed some nervous affection. A large proportion of idiots were, in Dr. Still's opinion, syphilitic and some children with inherited syphilis, at first bright and intelligent, showed mental deterioration in the second period of life, between six and 12 years of age, became dull and perhaps epileptic and demented, sometimes greatly emaciated and dying from exhaustion. In these cases chronic meningitis and extensive sclerosis of the cortex were found. A proportion of congenital hydrocephalus, of paraplegias and diplegias was also due to congenital syphilis and the same cause accounted for many cases of fatal convulsions, and perhaps epilepsy. In certain families the nervous tissues, viscera, or bones would appear to be especially liable whether to tuberculosis or to syphilis. The undesirable term "parasyphilitic" was founded on the very doubtful theory that a non-transmitted syphilis had influenced development and implied a specific origin which

did not exist. The effect of syphilis on the bones appeared to be to hasten rather than to retard ossification and craniotabes was not therefore commonly a syphilitic disease. Dr. Still was not aware of any means of distinguishing the bosses of the skull due to rickets from those due to syphilis. An acute interstitial nephritis sometimes occurred in early infancy as the result of inherited syphilis, and such cases might result in the chronic granular kidney met with now and then in the third and fourth year of life—a condition hitherto unexplained. Congenital syphilis produced two forms of joint affection, most commonly multiple synovitis, associated with eye changes; also a rare condition of chronic multiple osteo-arthritis, with changes resembling Heberden's nodes, and occurring from six years of age to puberty. It responded little to mercury or to iodides. Eye affections were very common in congenital syphilis and the fundus often showed choroiditis. As regards general treatment, grey powder, three-quarters of a grain thrice daily, gave the best results and did not affect the teeth even when taken continually for two years. Inunction might be used when it was necessary to get the child quickly under the influence of mercury, and the liquor hydrargyri perchloridi, in doses of from four to ten minims, where powders could not be given. The treatment should be given for two years after all symptoms had disappeared.

Dr. MORGAN DOCKRELL showed a series of drawings of syphilitic skin affections. In sections from a large number of cases he often found syphilis or tuberculosis unexpectedly present. Sometimes eruptions disappeared from the body as a whole but lingered in some locality where a predisposing cause or some complicating condition was active—for example, a seborrhœa or an acne. Lingering acne sometimes required mercurial treatment.

Dr. W. J. M. ETTLES, speaking on "general treatment," held that it was best to delay the use of mercury until any doubt in the diagnosis was removed. The absorption of mercury given by the mouth was about 5 per cent. but when given by inunction only about one-tenth as much, and it had been shown that intramuscular injections of from one-twelfth to one-sixth grain per diem controlled the disease. He attributed the success of the Aix inunctions more to general hygienic measures and the increase of metabolism promoted by sulphur waters than to the inunctions themselves. He agreed with Mr. Hutchinson that intramuscular injections should be practised, if at all, in exceptional cases only. They were particularly dangerous in patients with damaged kidneys, the mercury being stored up in the tissues. Dr. Ettles had, however, seen excellent results from the injection of calomel in parolein in fulminating syphilis and sloughing pharynx. He had found Zittman's decoction, which contained an appreciable amount of mercury, of value in syphilitic choroiditis and retinitis.

Dr. R. FORTESCUE FOX communicated from Dr. Françon of Aix-les-Bains a *résumé* of the treatment of syphilis in France and at the French spas. Dr. Fournier relied upon pills of the green iodide of mercury but, like other French physicians, he used injections for severe cases. Treatment was commenced early and continued with breaks to the fourth year and Dr. Fournier had lately suggested that in order to prevent the development of general paralysis a late treatment should be given in the seventh year, the third year being omitted. Dr. Françon quoted recent experiments in Paris, showing the active rôle of sulphur waters in aiding the elimination of mercury and promoting the mercurial cure. Excellent results were obtained at Aix, combining inunction with the use of sulphur waters and the douche massage, but it was necessary to watch the condition of the kidneys.

The PRESIDENT, in closing the discussion, referred to the analogy between syphilis and malaria. A patient years after his malaria met with some disease which at once took on a malarial type. In the same manner years after syphilis had been cured some accidental ulcer became angry and must be regarded as syphilitic. Was it possible that the spirochætæ might have a spore or resting stage?

LIVERPOOL MEDICAL INSTITUTION.

A New Theory of Female Genital Activity.—The Opsonic Power of the Blood.

A MEETING of this society was held on May 3rd, Mr. FRANK T. PAUL, the President, being in the chair.

Dr. W. BLAIR BELL read a preliminary note on a New Theory of Female Genital Activity. He argued that the uterus had a further function beyond the one usually attributed to it—viz., the secretion of an active agent which he called "uterin." He pointed out how clinical facts, such as the results of complete hysterectomy, the results of complete cöphorectomy, the condition of the uterus in superinvolution, and the results obtained by conservation of endometrium in supravaginal hysterectomy, all supported his contention that the theory of ovarian secretion was inconclusive and insufficient, and that the secretion of "uterin" as an internal secretion was paramount in genital activity. He indicated the general effects of excess and deficiency of "uterin" in women. He believed that menstruation was the result of *excretion* of an excess of "uterin" and he thought it probable that ovulation was influenced by "uterin" circulating in the blood. The menopause was produced by atrophy of the uterus and consequent deficiency of "uterin." Dr. Bell further gave an account of the methods of investigation and laid stress on the marked effects obtained by the administration of an extract of the uterine glands.—Professor B. MOORE having spoken, Professor H. BRIGGS said that all the clinical statements made by Dr. Bell had been well known in gynæcological clinics for many years. As to the functions of the glands of the uterine mucous membrane there was room for doubt. The great difficulty was to obtain trustworthy tests; catamenial and other hæmorrhages occurred under the most opposite physical conditions of the uterine mucosa.

Dr. T. R. BRADSHAW and Dr. E. E. GLYNN contributed a paper on the Significance of the Opsonic Power of the Blood and the Value of Estimations of the Opsonic Index in the Diagnosis and Treatment of Tuberculous and other Infections. They said that in the subjects of infections attended with symptoms of general intoxication there was a tendency to produce immunity, which, given a healthy organism and not too severe an infection, led to recovery. In local infections without constitutional disturbance there was but little tendency to the production of immunity. This was due to the fact that owing to the absence of toxins the immunising mechanism was not aroused to activity. To cure a local infection the right method was to imitate nature by introducing toxins in suitable doses into the system so as to excite the immunising processes. The opsonic properties of the blood were explained and the technique employed by Wright and Douglas was described. Dr. Bradshaw and Dr. Glynn confirmed from their own observations the statements of others that in normal persons the tuberculo-opsonic index was practically uniform and that in local tuberculosis it was generally depressed. The results of treatment in their hands had been most encouraging, but they had not employed it long enough to expect any complete recoveries. They laid great stress on the importance of watching the index during the treatment as the only means by which the danger of over-dosing could be avoided. They had made observations on nine persons who had undergone the serum treatment for diphtheria and had found that in all the cases the tuberculo-opsonic index was below normal. The same was noted in a medical man who had a prophylactic dose of antitetanic serum.—Dr. G. E. LOVEDAY related his very favourable experience of Wright's methods in the treatment of local tuberculous and other infections.—Dr. G. G. STOPFORD TAYLOR said that he had obtained excellent results with Wright's vaccines in two cases of coccogenous sycosis and one case of boils.—Dr. R. J. M. BUCHANAN said that in pulmonary tuberculosis the initial attack was, although it might be overlooked, always acute, the result depending largely upon the dosage of bacilli and the opsonic response of the blood. In chronic cases the opsonic content of the blood remained low and by raising it with tuberculin injections and judiciously exercising the patient the prospect of recovery was increased. After inoculation it was desirable that the patient should rest from 24 to 72 hours to prevent any possible injurious effect during the negative phase arising from added auto-inoculation by exercise. People varied very much in their susceptibility to tuberculin. The negative phase occurred in experiments with bacilli and blood in hang-drop cultivations. Dr. Buchanan had observed this when working with typhoid bacilli and leukæmic blood as long as eight years ago. As a diagnostic agent the estimation of the opsonic index should be done several times, as by a single observation the negative phase of an auto-inoculation might be incorrectly accepted as a persisting low index. Several cases of pulmonary tuberculosis were related in which benefit followed treatment and one in which all symptoms, physical signs, and large masses of axillary glands had disappeared. The use of T.R. was

followed not only by constitutional changes but also by marked alteration in the physical signs. As a proof of local action in pulmonary tuberculosis he observed that in chronic cases prior to inoculation the bacilli were extracellular while after inoculations phagocytosis could be seen. He pointed out that possibly watching the phagocytic index in the sputum might be used as a general guide for inoculation. In acute pulmonary tuberculosis phagocytosis in the sputum was common. He held that tuberculin treatment in selected cases should be practised in conjunction with sanatorium methods.—Sir JAMES BARR related the case of a young woman who had been under the care of Dr. Blair Bell and himself. She was suffering from infective endocarditis of a very severe type due to streptococcal infection. A rigor occurred every 24 hours or oftener, during which the temperature ran up to 104° or 105° F. and was followed by profuse sweating. There was an attack of pleurisy with pleuro-pericardial friction but without any marked effusion. All the various brands of antistreptococcal serum had been tried without much benefit. The assistance of Professor A. E. Wright and Captain S. R. Douglas was obtained and a vaccine was made from the streptococci obtained from the patient's own blood. Captain Douglas estimated her opsonic power twice daily, and by him the injection of the vaccine was regulated. Eventually the patient made an excellent recovery and, with the exception of the effects of phlebitis of the left lower limb, she was now quite well. Sir James Barr attributed the success of the case to the vaccine, and he paid a high compliment to the dexterity and manipulative skill of Captain Douglas.—Dr. W. B. WARRINGTON alluded to the statement of Professor Wright, endorsed by Dr. Bradshaw, that local lesions did not tend to spontaneous recovery. Dr. Warrington asked whether the tendency of local tuberculous lesions of the lungs and vertebræ was not notably towards recovery. It had been stated that though marked improvement might be noted in early pulmonary tuberculosis yet the opsonic index remained low. Dr. Crace-Calvert asserted the contrary. These statements required verification. Assuming that the index was increased by general treatment should tuberculin be administered? Many, no doubt, would feel a difficulty in accepting the explanation of badly adjusted and ill-spaced auto-inoculations to explain the high opsonic index in the more acute cases; though fluctuating, it seemed in many cases to remain above the normal. Dr. Warrington considered the case related by Sir James Barr of great value and one which showed the value of the vaccine treatment as opposed to that of antibacterial sera. The latter had proved of little value in his practice.—Dr. G. A. CRACE-CALVERT, Dr. NATHAN RAW, Dr. YORKE, Dr. W. C. ORAM, and Professor MOORE also took part in the discussion.—In replying, Dr. BRADSHAW said that none of the speakers who had any experience of the method had controverted the main points of the paper. He was inclined to attribute the remarkable results of the anti-sera to a specific influence immanent in the blood of the horse.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 20th, Dr. L. Lindsay Steven, the President, being in the chair.—Mr. J. Hogarth Pringle showed: 1. Two cases operated on for Acute Osteomyelitis. In the first the lower epiphysis of the tibia was separated from the diaphysis, and the upper epiphysis was involved centrally. The whole diaphysis was removed and the bone was now almost completely remodeled. In the second case the disease was thought at first to affect the spine of the scapula only. Later the shoulder-joint became affected and as the scapula was surrounded with pus it was removed with the head of the humerus. In four months the scapula became re-formed. 2. A case of "Black Tongue"—hypertrophy of the papillæ with pigmentation. Attempts to grow an organism failed. 3. An almost completely remodeled Femur after removal of the diaphysis from the lower epiphysis to the small trochanter. The limb had to be amputated on account of persistent non-union after fracture. 4. A "Grawitz" Tumour of the Kidney. After three months' hæmaturia the kidney had been removed. Sections of the tumour shown resembled the cortical part of the suprarenal bodies. Grawitz believed the tumour to arise from suprarenal inclusions.—Mr. Archibald Young showed, with the kind permission of Mr. G. H. Makins, two cases of Arterio-Venous Aneurysm following gunshot wounds in which spontaneous cure was taking place. The first case was that of a man wounded at the Modder, in whom there were symptoms originally of an aneurysmal varix of the right innominate vessels. Within four days of the injury a limited pulsating swelling had begun to develop, accompanied by a strongly marked thrill and systolic bruit. 25 days after injury the thrill was even more marked and a typical "machinery murmur" had appeared. A year later Mr. Makins found the condition much improved, the patient was at work as a lamp trimmer, but had some dyspnœa on exertion. The right pupil was dilated. Thrill and "machinery murmur" were much less obvious. There was now practically no pulsation, the thrill and murmur had practically disappeared, and there was no tumour to speak of. The man was able to do his work and had little or no trouble of any kind related to the original lesion. Distension of superficial veins (especially of the external jugular noted a year ago) had virtually disappeared. It might be said that the cure was, in this case, almost complete; all evidence of venous communication had disappeared and there was very little sign of arterial enlargement. The right pupil still remained, however, larger than the left. The second case was that of a man wounded at Magersfontein in whom the symptoms pointed to an arterio-venous (varicose) aneurysm at the root of the right carotid artery. Originally there was a large pulsatile swelling about the right sterno-clavicular joint and extending upwards beneath the sterno-mastoid muscle, backwards into the posterior triangle, and downwards behind the clavicle and upper ribs. The wall of the aneurysm was at first thin and yielding. Purring thrill and "machinery murmur" were strikingly developed and widely distributed. Evidence of damage to the ulnar nerve also existed. Seen by Mr. Makins a year later, the aneurysmal sac had undergone considerable consolidation and the wall had become dense and firm. Thrill and murmur, though still present, had become more localised. The ulnar nerve symptoms persisted. There was much dyspnœa on exertion and the man was not fit for work. Now the aneurysmal swelling, though still present, was distinctly smaller. Pulsation was less. The thrill and murmur had practically gone. Dyspnœa on exertion was much less marked and the man was in steady employment, driving a van for from four to five hours on six days in the week. There was evidence of secondary involvement of probably all the elements of the brachial plexus on the right side—weakness of all the arm and forearm muscles—but specially of those supplied by the ulnar nerve. Improvement in the arterio-venous lesion, however, was such that the man lived a comfortable life and there was now practically no evidence of venous disturbance. The lesion which still persisted might be regarded as a purely arterial one.—Dr. A. N. McGregor gave the clinical history of a case of Sarcoma of the Femur treated by Amputation through the Hip. The patient was a man, aged 30 years. The tumour had been growing for nine months and was quite free from pain. There was no history of injury. The tumour was of the size of an orange and occupied the popliteal space, bulging out on the inner aspect of the thigh. Locomotion, &c., were interfered with solely on account of its bulk. Amputation through the hip-joint was performed and he made an uninterrupted recovery.—Dr. James Scott showed the specimen with microscopic preparations. Section of the bone antero-posteriorly in the transverse plane showed that the medulla had been invaded. There was no expansion of the bone centrally. The tumour mass outside the bone was composed of spindle cells but within the bone a few distinct giant cells were seen in places.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 4th, Mr. L. A. Bidwell, the President, being in the chair.—An instructive discussion took place on the Varieties and Sequelæ of Influenza.—Dr. Seymour Taylor, in opening the discussion, said that in his view the multifarious forms which attacks of influenza took were mainly due to the differing soils which the micro-organism found in different patients. He was accustomed to group the cases under five types—namely, the neurotic, the pulmonary, the circulatory, the febrile, and the gastro-intestinal. The sequelæ, he thought, were, at least in some cases, dependent on a mixed infection and any constitutionally weak spot in a patient was particularly liable to be the one affected.—The President remarked that so far as his experience went particular epidemics seemed to be characterised by special types of the disease; he was especially interested in

those cases in which acute abdominal disorder was sometimes very closely simulated; he also spoke of those cases in which bone or joint disease might follow as a sequela; probably these were due to secondary infection.—Dr. E. Arthur Saunders agreed with Mr. Bidwell that varying types occurred in different epidemics. One of the most serious sequelæ in his experience was severe cardiac depression which was generally accompanied with a very slow pulse, which might also be intermittent; the danger of syncope in such a condition was very great. In his opinion this state was due in part to affection of the vagus and in part to a toxin directly acting on the heart muscle. The very marked general depression which was so frequently seen after an attack was, he believed, a combined result produced both from the nervous and circulatory systems.—Dr. F. Rufenacht Walters said that in the sanatorium with which he was connected they saw little influenza and he attributed this to the open-air conditions, for it was a not infrequent trouble in villages in the neighbourhood. No doubt a certain number of cases of pulmonary tuberculosis owed their commencement to this disease and also some cases which were quiescent were reawakened by an attack.—Dr. W. Culver James spoke of certain cases of infective pneumonia which he had seen antecedent to the time of the recrudescence of influenza in an epidemic form in this country; these he now believed to be of influenzal origin.—Dr. Stanley Smith observed that it seemed to him that neuritis of various kinds was much more common since influenza was such a frequent affection and he thought that these diseases were most probably related to one another as cause and effect.—Dr. Leonard C. T. Dobson also referred to the frequency of neuritis, especially of the musculo-spiral nerve. In his experience this trouble was best met by treatment with high frequency electrical currents.—Dr. E. Furnis Potter spoke of the severity of those cases in which the middle ear and then the mastoid became affected, the amount of bone destruction which resulted being often extreme. This trouble was, however, rather a complication than a sequela.—Dr. R. W. Lloyd, Dr. W. A. Bonney, Mr. H. W. Chambers, Dr. A. Kinsey-Morgan, and Dr. F. G. Lloyd having taken part in the debate Dr. Taylor replied.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on April 25th, Dr. J. K. Kelly, the President, being in the chair.—Dr. J. M. Munro Kerr showed the following specimens: (1) Multiple Myomata of the Uterus; (2) Tubo-ovarian Cyst; and (3) Chorio-Epithelioma of the Uterus.—Dr. Alexander MacLennan showed the Uterus and Vagina from a case of Complete Procidentia.—The President showed an example of Chorio-epithelioma of the Uterus.—Dr. John Lindsay and Dr. G. N. Turner read notes of a case of Fœtal Malformation. The right knee presented, there being a club-foot on this limb, the other limb being dwarfed and widely separated from its fellow and there being a ventral hernia and malformation of the uro-genital organs. The diagnosis of the position was unusually difficult but the delivery was easy. The malformations found in the infant post mortem were split pelvis, ventral hernia, extroversion of the bladder, split penis and scrotum (the testicles being within the abdomen), persistent cloaca with largely developed Müllerian ducts (cornua uteri masculini), absence of greater part of the colon, and sacral meningocele. The dwarfed limb was destitute of muscles and nerves, there being only fat between the bones and skin. The paper was illustrated by drawings and microscopic slides.—Dr. MacLennan asked whether there were any tendons in the toes.—Dr. Lindsay replied that they were absent.—Dr. John Baird read notes on a case of Parturition in a patient with Double Uterus, Cervix, and Vagina. A septum extended from immediately above the meatus to the centre of the perineum and upwards to the cervix, about one-eighth of an inch in thickness, and completely separating the vagina into two compartments. Two os uteri were felt, the presenting foot being in the left. As labour advanced the septum became detached from the upper part of the vagina, its edge obstructing the advancing head. Dr. Munro Kerr in consultation ligatured and divided the septum and delivered a stillborn child with forceps. Two distinct uteri were made out.—Dr. Munro Kerr and Dr. R. Jardine spoke of similar cases.—Dr. W. A. Caskie read notes on cases of Puerperal Eclampsia and one of Inversion of the Uterus. In the case of inversion of the uterus the patient was seen 12 hours after delivery by a midwife; the uterus was completely inverted and was replaced by means of compression and rotation. Ergot was given as a later treatment.—Dr. Jardine thought the use of ergot dangerous in these cases, as it might cause a return of the condition; in his opinion inversion was seldom caused by pulling on the cord, as the cord would break if much traction were used and it would therefore require a strong cord to bring about inversion of the uterus.—The President, Mr. J. Craig, and Dr. MacLachlan spoke.—Dr. Caskie replied.

Reviews and Notices of Books.

The Diagnosis of Tuberculosis of the Lung, with Special Reference to the Early Stages. By Dr. K. TURBAN, Privy Councillor of the Grand Duchy of Baden; Director of the Sanatorium at Davos. With an Introduction by Sir DYCE DUCKWORTH, M.D. Edin., LL.D., F.R.C.P. Lond. Translated by EGBERT C. MORLAND, M.B., B.Sc. Lond. London: John Bale, Sons, and Danielsson, Limited. 1905. Pp. 135. Price 5s.

THIS book is a translation of the first two sections of Dr. Turban's "Beiträge zur Kenntnis der Lungen-Tuberculose," published in 1899. In its preparation Dr. Morland has had Dr. Turban's constant co-operation and many additions and corrections have been made, so that the work may be taken as the expression of Dr. Turban's views at the present time. The book actually consists of two originally distinct papers, the one on Early Tuberculosis of the Lung and the Classification of the Disease into "Stadia," and the other on Physical Examination in Tuberculosis of the Lung. No attempt, we think wisely, has been made to combine the two in one essay and the title of the translation may be regarded as a compromise.

The work is divided into three sections, respectively entitled "Early Tuberculosis of the Lung," "Classification of Tuberculosis of the Lung," and "Physical Examination in Tuberculosis of the Lung," thus dividing the first of the papers named above into two parts. Numerous interesting observations are made in the first section on the manner in which pulmonary tuberculosis commences. The question is raised as to whether the physical signs which are so often noted at the apex of the upper lobe of one lung and which are usually regarded as being due to tuberculous infiltration are always to be ascribed to that condition. That certain other conditions may occasionally affect the apex of the lung is, of course, well known but they do not give rise to the collection of physical signs now referred to. As these signs are so frequently met with if they are not due to tubercle some apical disease of a non-tuberculous nature should often be detected at necropsies. Dr. Turban points out that lesions of such a nature are very rarely found, whilst morbid conditions due to tubercle are discovered in one-third, or even one-half, of all post-mortem examinations. He therefore rightly concludes that the apical lesions diagnosed during life as being of a tuberculous origin are in the highest degree of probability of that nature.

Dr. Turban also refers to the insidious manner in which pulmonary tuberculosis develops and the long period which may elapse before breaking down of the lung tissue may occur. When the organism has reacted to the invasion of the bacillus with inflammation and tissue proliferation there may be a pause before softening occurs. This pause may be temporary or permanent and occurs at any rate once in an overwhelming proportion of cases of chronic tuberculosis and often several times in the course of the disease. This state of equilibrium in the damaged organ has been happily termed by French authors "la trêve," a suspension of hostilities. Examples of stationary tuberculosis are frequently seen at necropsies made on patients who

have died from some other cause (accident or disease) than tuberculosis. In many of these cases there have been no symptoms of pulmonary tuberculosis and Dr. Turban suggests that the earliest deposits of tubercle may not necessarily produce clinical phenomena. He argues that whether the disease is manifested early or late depends on the degree of the toxicity of the bacillus, on the production of antitoxins by the organism, and the consequent quicker or slower development of the disease, as well as on its localisation in the bronchi and alveoli or in the interstitial tissue. Most physicians will agree with him that in any case it is false to assume that clinical symptoms must begin, as a rule, with sputum containing bacilli. Bacilli are in general first found in the sputum when foci soften and invade a bronchus, or, to use Dr. Turban's phraseology, "when tuberculosis, until then '*closed*,' becomes 'open.'" This condition is reached sooner or later according to the localisation of the foci and the rate of their development. He further maintains that in cases of pulmonary tuberculosis running a normal course the time during which the "closed" form lasts must be of considerable duration—weeks, months, or years. The symptoms and physical signs of early pulmonary tuberculosis are next discussed in detail and many interesting and instructive points are brought out.

Section II. deals with the division of the disease into "stadia." Dr. Turban's classification is a good one from a clinical point of view and might well be generally adopted for comparative statistics. For those of our readers who are unacquainted with this classification we may state that Dr. Turban distinguishes three stages, or stadia, of chronic pulmonary tuberculosis as follows: (1) disease of slight severity affecting at most one lobe or two half-lobes; (2) disease of slight severity more extensive than in the first stage but affecting at most two lobes, or severe and affecting at most one lobe; and (3) all cases of greater extent and severity than in the second stage.

Section III. describes the physical examination which is required in cases of pulmonary tuberculosis. The various changes which may be noted on percussion and auscultation and the numerous varieties of adventitious sounds which may be heard are well described, and numerous useful hints are given which will be of considerable value to the practitioner in examining cases for the early signs of pulmonary tuberculosis.

We can cordially recommend to our readers a perusal of this little book. It will be found of real practical value and it contains information not included in ordinary text-books on medicine.

The Principles of Treatment and their Applications in Practical Medicine. By J. MITCHELL BRUCE, M.A., LL.D. Aberd., M.D. Lond., F.R.C.P. Lond., Consulting Physician to Charing Cross Hospital and to the Hospital for Consumption, Brompton. Third impression. London and Edinburgh: Young J. Pentland. 1905. Pp. 614.

IN our review of this work when it first appeared[1] we expressed the favourable view that we had formed of it after studying its contents. We explained the nature and scope of the book and commented on the excellent lines on which it was planned. We remarked that it started by assuming no therapeutical laws but proceeded to find them in the familiar facts of etiology, pathological anatomy, and the clinical characters of disease. These points are carefully considered in ascertaining the elementary principles of treatment and in the course of the inquiry the student is taught how he may himself employ his observations as guides to practice. The volume now before us is not a new edition, so that our previous remarks apply equally to this, the "third impression." Dr. Mitchell Bruce states, however, in a prefatory note that advantage has been taken of the demand for a third issue of the work to reconsider and to modify certain opinions and expressions, to introduce some of the newer remedies to the attention of the reader, and to correct a few typographical errors that had previously escaped notice. The fact that two impressions have been so speedily exhausted and that a third has been called for is not a cause for surprise when the reader becomes familiar with the book; it is replete with most valuable information in regard to therapeutics and contains numerous hints which will prove most useful to the practitioner. For speedy reference the second part of the work, "Illustrations of the Principles of Treatment," will be found very serviceable. The treatment of various diseases is considered in detail, but at the end of each chapter a brief summary is given which enables the practitioner or the student to find at once the information desired.

We again have the pleasure of congratulating Dr. Mitchell Bruce on the success of his work which forms one of the most practical and comprehensive manuals in connexion with the treatment of disease which have been published.

[1] THE LANCET, March 3rd, 1900, p. 623.

Clinical Hæmatology: a Practical Guide to the Examination of the Blood with Reference to Diagnosis. By JOHN C. DA COSTA, jun., M.D. Second edition, revised and enlarged, containing nine full page coloured plates, three charts, and 61 other illustrations. London: Rebman, Limited. 1905. Pp. 591. Price £1 2*s.* 6*d.* net.

WITHIN three years the call for a new edition gives the author of this admirable volume so much to incorporate that he must be glad of the opportunity of crystallising the recent advances at the present time. He indicates three noteworthy lines of advance—the identification of new clinical entities, the correlation of blood pictures with a number of diseases hitherto unstudied or imperfectly investigated hæmatologically, and the proof of the septic nature of many of the specific infections. There can be no doubt that hæmatology has been making rapid advances but the rate of progress can scarcely be appreciated unless in some such work as that at present before us we have an opportunity of realising the numerous changes necessitated within a very short time. For example, we find in this book that fresh space has had to be devoted to trypanosomiasis, kala-azar, spotted (Montana) fever, and cyanotic polycythæmia; that the blood changes of a considerable number of familiar conditions have required revision; while it is claimed that hæmatology has proved the bacteriæmic character of enteric fever, Malta fever, pneumonia, scarlet fever, and possibly rheumatic fever. The account of trypanosomiasis supplies a very satisfactory but brief history of this condition, with a clear description of the worm-like organism of which there is an admirable illustration. It is suggested that although the detection of trypanosomata in the blood affords the key to the diagnosis, yet when no organisms can be found a well-defined anæmia with a low leucocyte count, characterised by an excess of large lymphoid cells and by moderate basophilia, gives a very suggestive blood picture. The Leishman-Donovan bodies of kala-azar are figured, while it is remarked that the blood pictures of this disease and of Malta fever are very similar, apart from the parasitology of the blood. The account of the examination of the blood by clinical methods is extremely lucid and orderly and new instruments and new methods of work are described with such simplicity that the student should have no difficulty in mastering the technique. We are informed that in the preparation of this edition much new material has been gleaned from the consultation of more than 900 recent references to hæmatological literature and it is extremely satisfactory to note that a large number

of these references indicate due appreciation of the labours of British investigators. From the care with which this volume has been revised it can be cordially recommended to all who wish to obtain information of recent advances in hæmatology and also to those commencing this important branch of study. For the beginner it may be well to remark that much of the spelling is American rather than English; although this entails no difficulty of comprehension it involves a certain amount of correction for the purpose of examination and does not appeal to British eyes.

LIBRARY TABLE.

Indian Toxicology. By F. N. WINDSOR, Captain, I.M.S., M.B. Cantab., M.R.C.S. Eng., Chemical Analyst and Bacteriologist to the Government of Burmah. London: W. Thacker and Co. 1906. Pp. 99. Price 3 rupees.—The scope of this little book is limited to the poisons which are used in India, by which means it is hoped that the contents may be of practical use to both medical men and students in that country. The author rather quaintly states that other poisons may be considered as "toxicological curiosities" for which larger text-books about European toxicology must be consulted, "although the information will prove of no use to them in their future career in India." It is equally certain that English readers will find within these pages reference to some few poisons which they are not likely to find mentioned in English text-books or to encounter in practical work. This little book only consists of six chapters and of these four deal with generalities, such as the scope of the science, the recognition of poisoning, the methods of analysis and examination, and the general treatment of poisoning. In the last two chapters there is a classification of poisons into corrosives and irritants and vegetable and animal poisons. It must be admitted that there is nothing peculiarly Indian in the group of corrosives and irritants unless we note the ease with which common poisons can be purchased in the bazaars and the relatively greater frequency of their employment for poisoning cattle. Another source of danger is due to the carelessness of native shopkeepers who keep drugs and foodstuffs in close proximity and to the stock-in-trade of the hakims being frequently tied in the corners of dirty rags with no apparent means of distinguishing one white powder from another. Of the vegetable poisons, opium, datura, and aconite appear to be those most commonly employed; others described are strychnine, the oleanders, Indian hemp, cocaine, and more briefly, as being less common, plumbago, madar, and jequirity. The main facts are usefully epitomised in each case, while greater space is devoted to directions connected with the analysis and the detection of the different poisons. We are glad to note that in several instances the author does not hesitate to give details of physiological tests when chemical tests may lead to unsatisfactory results. Within the limitations which the author has assigned to his book he has succeeded in compressing much useful information, and he supplies many interesting brief records of actual cases which indicate that accidental and intentional forms of poisoning occur with sufficient frequency to call for the restrictions of the sale of poisons which obtain in this country.

Technique de Microbiologie Tropicale. By Dr. F. NOC, Médecin Major des Troupes Coloniales, Détaché à l'Institut Pasteur de Lille. With a preface by Dr. A. CALMETTE. Illustrated. Paris: Octave Doin. 1905. Pp. 320. Price 4 francs.—This concise volume is more comprehensive than the title of the book would lead us to expect. The book is more than a laboratory guide, for it deals not only with technique, but also with the anatomy of, and to some extent the bionomics of, parasites concerned in the etiology of tropical ailments. The subject is arranged in four parts. The first part of the book is devoted to the equipment necessary for a laboratory in the tropics, to the preservation and methods of transmitting pathological specimens, and to the study of mosquitoes, ticks, and other propagators of infection. The second part of the book is concerned with "diagnostic microbiologique," of which the first chapter deals with a clinical study of the blood in persons living in warm climates. The second chapter deals with malaria parasites, piroplasmosis, trypanosomiasis, spirillosis, filariasis, and the serum diagnosis of Malta fever, dysentery, and typhoid fever. In Chapters III. and IV. intestinal and skin parasites are fully considered. In the third division of the book pestilential maladies, such as plague, cholera, and yellow fever, are studied. In the fourth and last section the prophylaxis of several of the more prevalent tropical diseases is discussed. Dr. Noc's book is admirable; it is well illustrated, well written, and presented in a manner which is at once easy to follow and thoroughly scientific.

Indigestion: the Diagnosis and Treatment of the Functional Derangements of the Stomach, with an Appendix on the Preparation of Food by Cooking, with especial reference to its use in the Treatment of Affections of the Stomach. By GEORGE HERSCHELL, M.D. Lond. Third edition, entirely rewritten. London: Henry J. Glaisher. 1905. Pp. 293. Price 5s. net.—Indigestion as a diagnosis is rarely justifiable, since, as Dr. Herschell himself writes, "it is a matter of common knowledge that the group of symptoms to which we apply the term for clinical convenience is common to many different affections of the stomach, and modern methods of examination have enabled us in the majority of cases to find out without difficulty the exact cause of the trouble." This quotation gives accurately the aims and scope of the work before us, and we may say that Dr. Herschell has been successful in his presentation of the methods of investigation and treatment of the common disorders of the digestive processes in the stomach and that his classification rests on a rational basis. In adopting the title of indigestion for his work he is perhaps less than just to himself, since he deals in a detailed manner with a variety of gastric disorders of which the varying symptom-complex implied by the term "indigestion" comprises but a part. There can be little doubt that in this country the methods of intragastric examination, by which so many advances in diagnosis and treatment have been made, have been greatly neglected and that in this respect we are much behind the American and continental practitioners. A useful chapter in Dr. Herschell's book is that indicating the cases for which such methods are unnecessary and those in which diagnosis without them cannot be rationally made. The style in which the book is written is somewhat popular and at times racily descriptive, while the scornful references to the "physicians of the nineteenth century" and to the "titled heads of the profession" are perhaps hardly in the best of taste.

The Mummy and Miss Nitocris: A Phantasy of the Fourth Dimension. By GEORGE GRIFFITH. London: T. Werner Laurie. 1906. Pp. 312. Price 6s.—Mr. George Griffith's scientific or quasi-scientific romances are always amusing and those who read his fantastic romance "A Honeymoon in Space" will not be disappointed with this his latest excursion into the world of transcendental geometry. Given a protagonist who has attained to the fourth dimension and all things are possible. Although we ourselves have never been able to form any clear mental picture of the fourth dimension, we have read Mr. Griffith's novel with interest and we can commend it to our readers as a book that is an agreeable relief from the study of problems which have to do with the physical affections of our poor bodies.

A Vocabulary of Malay Medical Terms. By P. N. GERRARD, M.D. Dub. Singapore: Kelly and Walsh, Limited. 1905. Pp. x.–107.—This little book should be found useful by the class for whom it has been compiled—namely, medical men

and magistrates. The preface is particularly interesting and gives sundry native beliefs as to medical matters which should certainly be taken into consideration by any European medical man who wishes to treat a Malay patient. Besides the vocabulary the book contains specimen conversations with patients supposed to be affected with various diseases and Snellen's test-types in Arabic lettering with a colour-vision test. One correction we must point out to Dr. Gerrard, and that is that "Crawford's Vocabulary" should surely read "Crawfurd's Vocabulary."

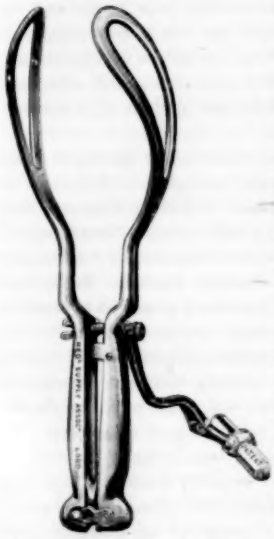
JOURNALS AND MAGAZINES.

Birmingham Medical Review (March).—In some remarks on Cases of Intestinal Resection Mr. Albert Lucas speaks favourably of end-to-end anastomosis by means of Murphy's button as more likely to leave a free opening than is lateral anastomosis with sutures. Dr. W. H. Wynn writes in commendation of Dr. F. J. Poynton's suggestion to employ citrate of sodium as a means of preventing too firm coagulation of cow's milk when used for feeding infants, and notes that in certain cases a similar procedure might be useful also for adults who are on a milk diet. The concluding portion of a useful abstract of recent work on Opsonins and Vaccine Inoculations, written by Dr. J. G. Emanuel, appears in this number.

New Inventions.

IMPROVED MIDWIFERY FORCEPS.

As it seems desirable for several reasons to avoid the necessity of introducing the left lower blade first I have devised a pattern of midwifery forceps which seems to meet the requirement. In these forceps it will be noticed that the blades do not cross, that the lock is not at the junction of the handle and blade but at the end of the handles, and that the lock can be fixed by a single turn of a stud. To prevent the blades from rolling one on the other a guide peg on the lower blade fits into a slot on the upper. A small swivel screw, attached at the junction of the blades and handles, prevents the handles from flying apart; a traction rod can be used if necessary, as in the illustration. I have used this pattern of forceps in a great number of cases and others, as well as myself, have been surprised at the ease of application.



The forceps were made for me by the Medical Supply Association, of Gray's Inn-road, London, W.C.

Ladbroke grove, W. H. B. TAYLOR MORGAN, M.D. Edin.

ASYLUM REPORTS.

Derby Borough Asylum (Sixteenth Annual Report for the Year 1904).—The daily average number resident in this asylum during 1904, the last year reported upon, was 321. The admissions numbered 88, the discharges 48, of which 34 were recovered (giving a recovery-rate of 43·6 per cent. of the admissions), and the deaths 32, or 10 per cent. of the daily average resident. The recovery-rate is a satisfactory one; the death-rate is about the average for county and borough asylums. Amongst the numbers resident were 17 private patients and 15 boarders from a county asylum. For the past five years the average annual admission-rate for Derby patients has been 80. The character of the admissions is reported by Dr. S. Rutherford Macphail, the medical superintendent, to have been unfavourable, many of the cases being imbecile, epileptic, or sufferers from incurable dementia. In only 43 of the 88 admissions could recovery be reasonably expected. About two-thirds of the admissions suffered from recognisable physical disease, and this is stated to be the usual proportion. In respect to causation, hereditary predisposition to insanity or other nervous disorders was present in 36 per cent. of the admissions. In several of these cases the hereditary taint was denied by the relatives notwithstanding the fact that members of the family had been in the asylum. Dr. Macphail thinks it safe to assume that 50 per cent. would more correctly represent the amount of hereditary predisposition. Alcoholic excess was ascertained in 20 per cent., and in a like number the predisposing influence of various bodily disorders was established; these are not individually referred to. The statistics of 16 years have been collected in respect to relapse of patients discharged recovered; out of 521 patients so discharged, 105, or 20 per cent., were readmitted; not an undue proportion, as Dr. Macphail observes. It is found that patients take a longer time to recover than was the case ten years ago; the average period of residence has increased of recent years. Showing the importance of the early treatment of insanity, as of other diseases, it is to be noted that in the 34 patients discharged recovered the disorder had existed in 32 for less than three months at the date of admission. Out of 32 deaths only three were due to tuberculosis, and since the opening of the asylum the percentage of deaths from this cause upon the total number of deaths is 9·3, which is but little more than one-half the percentage for public asylums as a whole. There were 11 vacant beds in the asylum at the date of the committee's report, but these were all in the private department. Under the auspices of the Bratazon Employment Society the institution is visited by ladies who instruct the patients in various forms of light employment and still further manifest their interest by visiting at their homes those who have recovered. From the report of the Commissioners in Lunacy it appears that a detached block for 30 female private patients has been provided. From this report we gather that the asylum is maintained in excellent order.

St. Andrew's Hospital for Mental Diseases, Northampton (Report for 1905).—The average number daily resident in this institution during the year was, according to the report of the medical superintendent, Mr. J. Bayley, 410. 78 patients were admitted, of whom 66 were first admissions. The discharges numbered 95, of whom 46 were discharged recovered, which gives the very high proportion of 74·19 per cent. on the admissions, excluding transfers from other asylums. This figure is above what might be expected even from an institution such as this, which no doubt receives a large proportion of cases favourable for treatment. The statistical tables appear to give the percentage of recoveries on the total admissions (including transfers) and therefore a comparison of the above-mentioned figures with similar ones in previous years is not possible. Of the 46 patients discharged recovered 27 were under treatment for from three to nine months. The percentage of deaths on the average number resident was the low one of 6·34. As regards causation of insanity, trouble and worry were responsible for 24 per cent. of the admissions, alcoholic excess for between 11 and 12 per cent., whilst hereditary influences were ascertained in no more than 8 per cent., an extraordinarily low proportion, probably largely explained by the difficulty of eliciting information on the subject of heredity from persons of the social class to which those with whom this institution deals largely belong. In no less than 70 of the 78 admissions the mental disorder assumed the form of mania or melancholia; according to the statistical tables not a single case of delusional insanity was admitted. The hospital has the advantage of a separate residence, situated in North Wales, to which patients are sent for change, which is no doubt excellent alike from the point of view of the patients and the nursing staff. St. Andrew's Hospital is an institution for the middle and upper classes, a large proportion of the patients being received at very moderate rates of payment. The reports of the Commissioners in Lunacy, who visit this and similar institutions twice yearly, are appended and are of a nature satisfactory to the management.

THE LANCET.

LONDON: SATURDAY, MAY 12, 1906.

Sanitary Administration in the Port of London.

THE reports of the medical officer of health of the Port of London testify year by year to the importance and variety of the services which the corporation of the City, in its capacity of sanitary authority for this great seaport, renders to the metropolis and to the country as a whole. The most recent of these reports, that for 1905, is no exception to the rule. One of the most important duties undertaken by the medical staff is in relation to infectious diseases on shipboard. Of these, as many as 211 cases came under notice during the year, including 65 cases of enteric fever, 24 of small-pox, six of cholera or suspected cholera, and nine of suspected bubonic plague. In connexion with the last disease arrangements which had been made for the destruction of rats on board vessels and in warehouses within the docks resulted in over 50,000 rats being caught and destroyed during the year. As regards cholera, special vigilance was called for in the autumn in consequence of prevalence of this disease in Russia and its extension along the River Vistula into Germany. At the suggestion of the Local Government Board all persons arriving in the Thames from ports on Russian and German littorals were medically examined and the destination of passengers or immigrants was in all cases investigated in order to permit notification to the sanitary authorities of the places to which they were bound. Addresses given in these circumstances have often proved to be inaccurate in the past and it is satisfactory to read that in consequence of special arrangements made last year the persons who could not be traced after leaving the vessels formed a comparatively small proportion of the whole. On the question of alien immigration Dr. H. WILLIAMS reproduces a table from the report of the Commissioner-General of Immigration of the United States in illustration of the care taken at American ports to exclude immigrants who are found to be physically or mentally deteriorated or who suffer from disease which would prevent them from becoming useful citizens. Next year it may be possible to chronicle some action in the same direction, however small, at British ports. As we pointed out in an article in THE LANCET of Feb. 2nd last, describing the arrangements made in the Port of London for carrying into effect the provisions of the new Aliens Act, this legislation from the point of view of the public health of the country is on right lines and gives promise of good results if reasonably administered. It is to be hoped that this consideration may be kept in mind in the political warfare which has arisen over the operation of this Act. It is certainly difficult to consider many of these aliens as desirable additions to our population after reading the description given by Dr. WILLIAMS of the filthy conditions which are encountered on some of the vessels in which they arrive.

The work of inspecting foodstuffs within the area of jurisdiction of the port sanitary authority has come to be of considerable magnitude. The port authorities have the advantage of being able to inspect foods in bulk and to condemn articles which are unfit for food before they have become scattered throughout London and the provinces. During the year it was necessary to condemn over 15,000 carcasses of mutton or lamb, 3517 quarters of beef, and 437 cases of veal, pork, and butchers' offal. In course of examination of tinned foods 1121 tins of preserved meat, 5404 of preserved fish, 5488 of fruit, and 104 of condensed milk were condemned. Other articles seized comprised 524 crates of frozen rabbits and some 100,000 eggs. Dr. WILLIAMS relates an interesting sequel to the sinking of the French steamer *Curacellas* below Gravesend with a large cargo of coffee on board. When this coffee was recovered it was necessary to regard a portion of it as unsound on account of mouldiness and fermentation. It was decided by the Customs authorities that this damaged coffee might be "denatured" by being mixed with an adequate portion of slaked lime. Some 500 tons were treated in this way and the mixture was disposed of "for manurial purposes." It afterwards became apparent, however, that the persons interesting themselves in this mixture of lime and coffee were incurring expenses which seemed out of proportion to the value of the material as manure. Observations were made and the subsequent history was that the whole was shipped to Antwerp where there was reason to believe that the material was washed to remove the lime, dried, and afterwards roasted and probably used for the purpose of "bulking" with other coffee.

One of the most important sections in the report relates to the condition of quarters occupied by the crews of merchant vessels. The position of port sanitary authorities in this matter is by no means satisfactory. Something may be done, and is done, to secure mitigation of "nuisances" and to obtain cleanliness of crews' quarters. But the port medical officer of health is practically powerless to deal with gross sanitary defects which result from faulty construction and neglect of elementary principles of lighting and ventilation. In the ordinary merchant steamer the space allotted to the crew, and used both for sleeping and for messing, is thrust as far forward as possible. The space in question is divided longitudinally in order to secure the customary, and probably necessary, separation between firemen and seamen. A minimum floor area of 12 square feet per head is prescribed by Board of Trade regulations but this in practice secures a wholly inadequate air space, while ventilation is frequently almost non-existent. Port holes in the bows in ordinary circumstances have to be kept closed. Ventilators are frequently so arranged that they open immediately over the bunks. A strong down draught falls on the occupants, with the result that these ventilators nearly always are blocked up at the first opportunity. In these circumstances, especially in rough weather and when the fore cabins are full of wet clothing, the condition of the crew's quarters is often unwholesome in the extreme. The matter has again and again been brought to

the notice of the Board of Trade but with little or no result. It might be supposed, however, that care would at least be taken to see that the present regulations regarding space, ventilation, and lighting, inadequate though they are, receive recognition in the construction of new vessels. Some observations made by Dr. WILLIAMS regarding a steamer built as lately as 1900 seem to show that this is not always the case. The inspector's visit was made in the Upper Pool in broad daylight. Going to the crew's quarters he found that all the available lamps, four in number, had been lighted in order to provide sufficient light for the crew to see by. The only way in which daylight could be admitted into the quarters on either side was by two seven-inch glazed ports, and as usual the bunks occupied the same side of the quarters as the glazed ports and greatly obstructed what little light could be admitted by this means. To representations by the port sanitary authority the owners returned the usual answer that the quarters "had been built to the requirements of the Board of Trade and duly passed by them." Representations then made to the Board of Trade that such inadequate lighting transgressed official regulations elicited the reply that at Cardiff, where the vessel had gone, the Board of Trade inspector considered that no breach of official regulations existed. Dr. WILLIAMS will receive the support of all who have practical experience of the subject when he urges that the Board of Trade should take powers to improve the conditions of life of the seamen in the following directions: (*a*) crews' quarters should not be placed in the fore part of the ship; (*b*) improved and efficient ventilation, lighting, and heating; (*c*) increase of cubic space; and (*d*) separate messroom and washhouse. Dr. WILLIAMS points out that if crews were berthed aft all these requirements could be carried out with the greatest facility. This is a matter to which the attention of Parliament should be directed in connexion with the Government's Merchant Shipping Bill. One clause in this Bill confers powers on the Board of Trade to appoint committees of experts on any questions relating to the working of the Merchant Shipping Acts. It is to be hoped that the Board of Trade will take an early opportunity of utilising these new powers to obtain advice and guidance on elementary sanitary principles which at present appear to receive too little recognition in official regulations regarding the construction of vessels and too little consideration in the everyday practice of the Board's officers.

The Feeding of Children attending Public Elementary Schools.

ON March 2nd the Education (Provision of Meals) Bill passed its second reading in the House of Commons and was referred to a Select Committee. In our issue of March 10th we commented upon the provisions of the Bill and pointed out that the local authorities, in whose hands the organisation for the providing of food for the children is left, would have no easy task. Two points have especially to be considered: firstly, the selection of recipients of meals, and secondly, the organisation for the distribution of such meals as it may be determined to give. The Select Committee which is now sitting to consider the provisions of the Bill will have its task considerably lightened by the information contained in a White paper, Cd 2926, which has recently been presented to Parliament by command of His Majesty and which contains information collected by the Board of Education and the Foreign Office regarding methods adopted in great continental and American cities for dealing with under-fed children. The Foreign Office began to collect this information at the request of the Board of Education in March, 1905, and the return is dated April 11th, 1906. A schedule of questions was drawn up covering all the points which seemed likely to arise in a discussion of the subject, the most important being the following:—What meals are provided (i.e., breakfast, dinner)? Are meals given to all children attending elementary schools? If not, how are those to be fed chosen? Are any steps taken to recover the cost from parents who can afford to feed their children but do not? Another question was a request for information covering the last three years as to (*a*) the school population, (*b*) the number of meals given, (*c*) contributions from public funds: (i.) imperial, (ii.) local; (*d*) voluntary contributions, (*e*) payments by parents, and (*f*) total cost. The countries included in the return were Austria and Hungary, Belgium, Denmark, France, Germany (including Würtemberg and Luxemburg), Holland, Italy, Norway, Sweden, Spain, and Switzerland, and of cities in the United States, New York, Philadelphia, and Chicago.

The lessons to be learned from the replies form an interesting document. In all the countries mentioned some attempt is made to provide food or other form of assistance for children presumably in need thereof. Stated broadly, in only very few instances were any funds received from the State towards the expense of feeding children, but in nearly all cases assistance was received from the local funds. If therefore we in this country determine to feed our children upon the same lines as have been adopted by certain of our neighbours it seems pretty sure that the money for the purpose will be an additional charge upon the already overburdened ratepayer, and equally sure that such a proposal will meet with considerable opposition on both sides of the House. It is interesting to note that in giving evidence before the Select Committee upon April 26 h Mr. JOHN SCOTT, headmaster of the Wood Close School, Bethnal Green, a man of 23 years' experience as a teacher, said that in his view the under-feeding question was, on the whole, "quite trivial, the question of clothing and boots was much more important." From their very birth the children of our poor are fed in too many instances wrongly, even where the wages of the breadwinner are good and where a proper proportion of those wages is devoted to the sustenance of the family. This has been strongly commented upon by medical men and by all whose charitable work brings them into close relations with the poor, and statisticians have employed the fact in explanation of the figures of mortality, but the similar ignorance that is prevalent with regard to the clothing of the young, perhaps because it leads to less obvious and immediate consequences, has somewhat escaped attention. This point must be noted as forming an obvious argument for the regular inspection of school children by a medical officer, since popular ideas of what constitute sufficient and suitable food and clothing for children seem to be confused to the same degree.

Ideals are all very well in theory but they have to give

way to hard facts. In a properly organised society all children would be fed by their parents with as much regularity as are young animals or birds, or as children are to this day in primitive communities. But the conditions of modern life in what are called—some would say ironically called—civilised communities have led to the breaking up of the home, to the loosening of the bonds of parental responsibility and to children being "dragged up" anyhow, instead of being brought up by a careful parent. It is for the medical profession, so far as possible, to help modern society in the awkward fix in which many complex conditions have placed it. The reformation of the home is the most obvious remedy, but it is far easier to name a remedy than to find it. The schemes included in the return are but makeshifts, but at present they seem to be the best which can be made use of and if the Select Committee will carefully consider the information it may be able to provide a really useful measure. The country will have to pay a bill in some way to meet any charges found necessary and it is well that this should be recognised even before the machinery to meet the charges is proposed. The education of our children no less than their physique is bound up in the larger affairs of their environment and the schoolmaster, the physician, and the sanitarian should work together to arouse a public sense of the vast national importance of the whole question. Carefully tabulated medical statistics would assist our legislators to logical conclusions and practical action. "The children want bread and the suggested remedy is figures," we hear many kind-hearted people say; but it must be remembered that as yet no two people are agreed as to how many children want bread, much less to what extent the nation is thereby weakened in its effective population. Such a method of universal and systematic inspection of school children as is advocated by the National League for Physical Education and Improvement would supply at this junction information that would be simply invaluable to our legislators.

The Outbreak of Yellow Fever in British Honduras in 1905.[1]

Professor RUBERT W. BOYCE visited British Honduras in the autumn of 1905 whilst yellow fever was prevalent and we are now favoured with a report of his observations and a statement of his plans for prevention of the disease. From so astute an observer we expect a masterly report and in this expectation we are not disappointed, for Professor BOYCE'S publication is succinct in its statements, wonderfully complete, and written in a manner at once clear and convincing. Starting with the definite knowledge that yellow fever is conveyed by the stegomyia fasciata mosquito, a fact proved conclusively in 1900 by REED, CARROLL, LAZEAR, and AGRAMONTE, Professor BOYCE proceeds to show the distribution of stegomyia, its constant presence in all districts in which yellow fever prevails, and the sanitary conditions which obtain and serve as factors in favouring the continuance of this species of mosquito. That the town of Belize is infested by the stegomyia is not to be wondered at when the habits of this mosquito and the sanitary conditions in Belize are considered. The stegomyia fasciata is essentially a "domestic" mosquito; its larvæ are found in the receptacles used for the storage of water near houses and in the rain water collecting in tins, bottles, or crockery thrown out from the houses and allowed to lie about the gardens, yards, or outhouses, where it flourishes to the exclusion of other mosquitoes. Rain water stored in barrels is the commonest form of water-supply both for washing and also to a large extent for drinking purposes in the town of Belize and as these barrels have no lids they are a favourite and constant habitat of the larvæ of stegomyia. Water is also stored in vats and tanks; of wells there is a fair number but as almost all these are unprotected they constitute, in addition to the barrels, breeding places for this mosquito. It is plain, therefore, that if yellow fever is to be fought in Belize a controlled and protected water-supply is necessary; all vats, tanks, and barrels must be screened permanently with wire gauze or temporarily with cheese cloth. The eradication of malaria, to which Belize is also liable, can also be effected but, of course, on different lines. The most prevalent anopheles mosquito which transmits malaria in Belize is the Cellia albipes, although another undetermined species is also present. This mosquito is absent from the water receptacles near houses but is met with in the marsh land around the town, in the mangrove swamps, in the shallow weed-grown gutters of the streets, in shallow pools, in waste places, and in the cattle ponds. To free Belize from yellow fever and malaria would seem, therefore, a simple problem, for the areas of distribution of stegomyia and anopheles are patent and their eradication is only a matter of destroying their breeding grounds in and around the town.

The early recognition of yellow fever and the early notification of the disease are points upon which Professor BOYCE lays great stress. In British Honduras the stegomyia fasciata can live all the year round owing to the country being within the zone of the permanent distribution of this mosquito; there is therefore no season during which yellow fever may not prevail. Sporadic cases of the disease are liable to occur at any time, the only element required in addition to the stegomyia to produce an outbreak being a person or persons suffering from yellow fever. As the disease may be introduced at any season of the year from some one of the neighbouring countries, it behoves the medical authorities to be constantly on the alert. The clinical symptoms being the only readily available means of diagnosis, seeing that no parasite is demonstrable in yellow fever, as in the case of malaria, filaria, and other ailments, it is not always possible to come to an early diagnosis as to the nature of the illness, and in many cases of malaria and influenza the clinical signs and symptoms closely resemble those present in yellow fever. Fortunately, the post-mortem signs of yellow fever are characteristic and require no microscopical confirmation, and Professor BOYCE very rightly draws attention to the importance and imperative necessity of obtaining a post-mortem examination in the first suspicious deaths. In this way alone can the medical practitioner feel justified in declaring in the

[1] Report to the Government of British Honduras upon the Outbreak of Yellow Fever in that Colony in 1905; together with an account of the Distribution of the Stegomyia Fasciata in Belize and the Measures necessary to stamp out or prevent the Recurrence of Yellow Fever. By Rubert W. Boyce, M.B., F.R.S. Messrs. J. and A. Churchill, 7, Great Marlborough-street, London, W. Pp. 104. Illustrated. Price 3s. 6d. net.

early outbreak of the disease that it is really yellow fever he is dealing with and thereupon notifying the disease to the authorities. Early notification of any epidemic disease, indistinguishable by characteristic features apart from clinical signs and symptoms, is at all times a difficult and delicate matter, and medical men hesitate to take so serious a step without conclusive evidence. Hesitation to notify may involve a given community in the throes of an epidemic; whilst, on the other hand, the medical officer who reports the presence of the disease and subsequently finds that he is mistaken has involved the community in needless expense by upsetting commerce. The careful medical officer, however, will tell his difficulties to those in authority and proceed to isolate a suspicious case without necessarily raising an alarm. On board many ships, in the area infested by the stegomyia, mosquitoes are found and it only requires that a person should develop yellow fever on board to find the disease attacking other members of the crew or passengers, or it may be communicated, when the ship reaches harbour, to dock hands, Custom House officials, and others whose duty is to go on board the vessel or to handle the cargo. The need of careful medical inspection, of properly organised quarantine, and of means of freeing from mosquitoes the ships leaving ports infected by yellow fever is evident. Professor BOYCE deals with these subjects and brings forward a number of practical suggestions whereby the danger may be eliminated.

A recently published paper by Dr. F. I. WILBUR on the Home of Yellow Fever states that the stegomyia fasciata is not a native of American seaports in the Mexican Gulf, although it is found there, and endeavours to trace the migrations of this mosquito. Dr. WILBUR'S opinion is that the Sargasso Sea is the real home of the stegomyia fasciata and of yellow fever; that in the still water of this sea of seaweed, around which the ocean currents sweep like rivers, is to be found the home of the disease. The seaweed is the *Sargassum bacciferum* and it covers an area of the sea nearly equal to that of Europe. Ships on their way to the seaports of the Gulf of Mexico and to the northern ports of South America frequently traverse this continent of seaweed and there become infected. Dr. WILBUR draws attention to the fact that yellow fever was unknown in America before the time of COLUMBUS and it is significant that the route of his journey is known to have been across the Sargasso Sea. This conception of the area of infection is interesting and may or may not be correct, but it shows the trend of thought at the present day in regard to the origin and etiology of disease.

Annotations.

"Ne quid nimis."

BARON TAKAKI'S LECTURES.

Baron Takaki, the late Director-General of the Medical Department of the Imperial Japanese navy, has delivered two of the three lectures on the Preservation of Health amongst the *Personnel* of the Japanese Navy and Army. The lectures were given in the Governors' Hall of St. Thomas's Hospital and Baron Takaki seemed greatly pleased at the enthusiastic reception accorded to him by the audience that thronged the spacious hall. By the aid of coloured charts excellently lighted from the floor of the hall by means of powerful electric illumination the lecturer was able to interest those present in following the course of his remarks on the statistics of the Japanese navy bearing upon the prevalence of beri-beri and the eradication of that disease by the establishment of a proper diet, instituted by Baron Takaki in spite of great opposition. A full account of these lectures will appear in our columns.

THE ALLEGED INCREASE OF INSANITY.

THE recent urgent appeal of a *Times* correspondent for a well-organised application of the resources of medical science to the investigation of insanity as a physical disease deserves serious attention. It is doubtful, however, whether the appeal was strengthened by the unqualified assertion that the alleged increase of insanity is a simple and an established fact. Such an assertion naturally suggests the inquiry as to the ground on which it is based. It is an undoubted fact that the number of the insane in England and Wales under the control of the Commissioners in Lunacy has steadily and even rapidly increased during the past 60 years; indeed, the *Times* correspondent points out that the number, which did not exceed 21,788 in 1844, had increased to 119,829 on Jan. 1st, 1905, and he remarks that "the effect of the mere sweeping up and incarceration of the harmless so-called 'naturals' of country villages was exhausted within a very few years of the passing of the Lunacy Acts of 1845." How do facts square with this assertion? At the census in 1871 householders were for the first time required to state whether any member of their family was lunatic, idiot, or imbecile, and it can hardly be conceived that the numbers so returned would err on the side of over-statement. The census number of the insane in 1871 exceeded, however, by 12,264 the number known to, and reported upon, by the Commissioners in Lunacy in that year. Similar census information was required and collected in 1881 and 1891, and this reserve of cases, unknown to the Commissioners but included in the census returns, fell successively to 11,390 and 10,566, which hardly supports the assertion that all the insane had been "swept up and incarcerated" within a very few years of the passing of the Lunacy Acts of 1845. At the last census in 1901 the substitution in the householders' schedule of the term "feeble-minded" for "idiot" probably induced a fuller and more accurate return of persons of unsound mind in the English population, with the result that the number of the insane in the census returns for that year exceeded by 24,710, or 23 per cent., the number under the control of the Commissioners in Lunacy on Jan. 1st, 1901. These facts, although they afford no basis for deciding whether insanity is really increasing, prove that no trustworthy conclusion can be drawn from the increasing numbers of the insane brought from time to time within the cognisance and control of the Commissioners in Lunacy. It should, however, be pointed out that while the census numbers returned under similar conditions in 1871, 1881, and 1891 showed an increase in each of the two decades, the rate of increase, which was 7·04 per cent. in 1871-81, fell to 3·23 per cent. in 1881-91. Unfortunately, the substitution of "feeble-minded" for "idiot" at the census in 1901 destroyed the value, for comparative purposes, of the numbers of insane then enumerated, although it may more accurately represent the true number of persons of unsound mind. It is impossible, therefore, to use the census figures in 1901 for testing the reality of the alleged increase of insanity between 1891 and 1901. There are absolutely no satisfactory statistics for solving the most important problem whether the probable increase in the ratio to

population of existing cases of insanity really implies an actual increase of occurring cases of insanity. We know, however, that in recent years there has been a marked decline both in the death-rate and recovery-rate among the insane residing in asylums; and further, that the mean age of the residents in asylums is constantly increasing. This obviously implies accumulation of cases, which when duly allowed for shows that the number of new cases required in recent decades to account for the increase of numbers under the control of the Commissioners is a decreasing number. In their last report the Commissioners, moreover, call marked attention to the recent disproportionate increase in the number of aged persons suffering from senile dementia transferred from workhouses to asylums and further point out that the proportion to population of all lunatics aged upwards of 65 years admitted to asylums has steadily increased from 9·9 in 1884–88 to 14·3 in 1899–1903. These facts throw much doubt upon the alleged increase of lunacy and they prove that no sound conclusions on the subject can be based upon the increasing numbers of existing cases under the control of the Commissioners in Lunacy.

MULTIPLE POLYPI OF THE GASTRO-INTESTINAL TRACT CAUSING REPEATED INTUSSUSCEPTION.

IN the *Intercolonial Medical Journal of Australasia* Dr. D. M. Officer has reported the following remarkable case. A boy, aged nine years, was admitted to hospital on Oct. 21st, 1904. He had been ill for 12 months with abdominal pain and vomiting which occurred in attacks of from a few hours to a day's duration. At first the attacks occurred once a week or once a fortnight but for the previous month they had occurred every day, lasting a couple of hours with short intervals of relief to be followed by other attacks. The bowels had always acted regularly but latterly the motions were slimy and on administering a purgative prolapse of the rectum followed. The pain was so severe that the boy cried and writhed. It was referred to the umbilical region but tended to shoot towards the shoulder. Food did not induce attacks but when solid it tended to make the pain more severe. On examination a swelling was seen below, and to the left of, the umbilicus. It was freely moveable and felt semi-solid. Nothing was felt per rectum. After admission there were several attacks of pain in the upper abdomen in which the patient perspired freely and became very pale and cold. In the more severe attacks a large swelling appeared in the left subcostal region. This rapidly increased in size and then diminished either spontaneously or after the administration of morphine. Exploratory laparotomy was performed but nothing abnormal was found. Moveable kidney with intermittent hydronephrosis was diagnosed. After the wound healed the left kidney was explored and was found to be freely moveable. Nephrorrhaphy was performed. On Feb. 4th, 1905, the boy was readmitted with a history of further attacks. After admission there were several attacks in which a tumour appeared and subsided with the pain. Once three distinct tumours were present together. After administering an enema they subsided and the pain ceased. On Jan. 14th, 1906, he was again admitted with the same history. An attack had commenced on the previous day and persisted. A large ill-defined tumour was found on the left side. An enema failed to relieve the symptoms but a large quantity of blood came away. Laparotomy was performed and an intussusception involving about four feet of the small intestine was reduced. During the reduction some lumps were felt, but the patient was almost moribund and further exploration was therefore impossible. He never rallied and died an hour after operation. At the necropsy the whole gastro-intestinal tract excepting the ileum was found to contain adenomata, some of which were sessile and others pedunculated. They numbered 41 and the largest was in the stomach. Cases of multiple polypi of the intestines are rare and few cases in which they were so numerous as in the case related above have been recorded.

THE ACTION OF SILVER FLASKS ON BRANDY.

A CORRESPONDENT submitted to us recently some brandy which had been left for some time in a silver flask. The flask had the silver hall-mark upon it. The brandy had darkened considerably in colour and contained a dark brown flocculent sediment which on analysis proved to be copper combined with tannin. There was also a very distinct amount of copper in solution in the brandy, apparently in the form of acetate. These results suggested a few experiments which ultimately proved that genuine old brandy dissolves in a quite short time a very distinct amount of copper, the copper so dissolved ultimately combining with the tannin to form a tannate of copper. When a few shillings were placed in some old brandy and the spirit was examined after a day or so a distinct amount of copper was found in it. On adding a penny to the shillings in this experiment the dissolving effect was considerably increased, due, no doubt, to the stimulus set up by galvanic action. Spurious brandy, oddly enough, did not appear to dissolve any appreciable amount of copper from a silver coin, so it may be concluded that the action of old brandy is partly due to the acetic acid which it invariably contains, plain spirit being comparatively free from this acid. This view is supported by the fact that genuine Jamaica rum, which contains more acetic acid than does brandy, has a strong action on a silver coin, extracting very decided amounts of copper from it. Standard silver contains 7·5 per cent. of copper and evidently this alloy is readily acted upon by old brandy; it would seem desirable therefore to abandon silver unless it is absolutely unalloyed as a material for the brandy flask. Rightly or wrongly, it is the custom of many people to carry a brandy flask with them as a kind of sheet anchor in the event of faintness overtaking them or as an anodyne for colicky pains or other manifestation of digestive trouble. In the latter case the presence of copper in the brandy might easily aggravate the trouble as salts of copper frequently act after the manner of a powerful irritant poison, causing pain in the stomach and spasms. The simple precaution easily suggests itself that brandy should not be kept in a metal container but in glass.

THE NATIONAL ASSOCIATION FOR SUPPLYING FEMALE MEDICAL AID TO THE WOMEN OF INDIA.

THE report of this association for the year 1905 shows the very remarkable progress which has been made during the last seven years. There are now 12 provincial branches working under the central committee and there are some 140 local associations or committees attached to it. For the provision of medical aid to the women of India there are now some 260 hospitals, wards, and dispensaries officered by women and most of them directly governed by, or affiliated to, the association. This number compares very favourably with the 185 which existed in 1898. The total value of the various institutions engaged in furthering the work of the association amounts to the large sum of 3,83,37,000 rupees. During the year 1905 medical aid was furnished to 1,956,831 women and children, an increase in the numbers of some 472,000 over the year 1898. 44 lady doctors, 87 assistant surgeons, 274 hospital assistants, and a large number of midwives and nurses are employed in the various zenana hospitals and institutions. These figures show a marked increase over those for the year 1898.

A corresponding increase is evident in the disbursements and investments of the association. This period of seven years comprises the term during which Lady Curzon controlled the work of the association and it is not surprising, therefore, that the committee should wish to express its sense of the heavy loss which it has sustained by her departure from India and its appreciation of the very admirable work that she did for the association during her term as president. In her last address to the committee Lady Curzon said: "Some fears had been expressed that by the plan of bringing trained nurses from England for work in India under a scheme which had been put forward by her the work being done by nurses in India already might be interfered with. The scheme, however, for providing English nurses in every province was in no way intended to interfere with or check work already being done or capable of being done by other agencies." The need of properly trained English nurses in India is a very marked one and there can be no doubt that there is ample room for all the women who can be persuaded to undertake such work, whether they be trained at home or in India. We have already discussed this matter[1] and we can only congratulate the committee of this association on the good work, which it has done and hope that future years may witness as great an increase both in the prosperity of the fund and in the relief afforded to the suffering women and children of India as has attended its labours in the past.

THE TREATMENT OF PUERPERAL FEVER.

THE Midwives Supervising Committee has presented a most interesting report on the working of the Midwives Act, 1902, in Manchester, to the city council. The report is a long one and contains statements from the medical officer of health and the medical executive officer appointed to work under the medical officer of health in connexion with the supervision and training of the midwives in the city. There is included also a report from Dr. A. Knyvett Gordon, medical superintendent of the Monsall Fever Hospital, in reference to the treatment of the cases of puerperal fever admitted into that hospital during 1905. In this he gives most interesting details of the procedure adopted in the treatment of these cases. On the admission of the patient after a brief preliminary examination to eliminate any infectious disease which might call for her complete isolation, a further examination is carried out in the operating theatre under an anæsthetic, the patient having been prepared for any operative procedure which may be considered necessary. A swab is taken from the interior of the uterus and a complete study of the organisms found is subsequently made in the bacteriological laboratory. In all but five of the cases treated during the year 1905 the interior of the uterus was then curetted with a large sharp curette and the raw surface made was disinfected with undiluted izal fluid. The object of this operation is not only to remove any retained products of conception but also to disinfect thoroughly the interior of the uterus. In the further treatment an attempt is made to neutralise the poisonous products of the infecting organisms, and for this purpose large doses of bactericidal sera are employed. Two types of these sera have been used, one prepared from pure cultures of various streptococci isolated from cases of puerperal fever and the other prepared from pure cultures of the bacillus coli, also prepared from cases of puerperal fever. During 1905 the antistreptococcic sera were employed in 26 of the cases and the colon bacillus serum in four. In all cases large doses of the sera were employed, varying from 40 to 100 cubic centimetres; in no cases have any untoward symptoms developed, although occasionally the treatment seems to have been of no avail. All the cases admitted during the year, 41 in number, were very seriously ill, and all presented evidence of severe septic infection. 60 per cent. of the cases were attended by midwives, while in almost every case there appeared to have been unnecessary delay on the part of the midwife in sending for a medical man. Dr. Gordon asks the interesting question, Is it possible to determine whether the infection took place at the time of delivery or subsequently? He thinks it improbable that the incubation period is more than 48 hours in the case of the streptococcus or the bacillus coli, judging by analogy from other forms of wound infection. In his series of cases, however, this interval has been four days or longer in 20, or 57 per cent. In the cases attended by medical men the average interval has been three days and in no case has it been more than four days; in the cases attended by midwives, on the other hand, the average period has been four days and one of six or seven days has been by no means uncommon. The interval elapsing between the onset of septic symptoms and the notification of the case was in most of the cases unduly long and this is very unfortunate from the point of view of successful treatment. Dr. Gordon pleads for the admission of all cases of puerperal infection both of the mild and of the severe type into hospital, and in this we feel sure he is correct. These are essentially cases for hospital treatment but there is often considerable difficulty in getting them admitted into a hospital. Many general hospitals will not take them and there is no provision in London for their admission into the fever hospitals of the Metropolitan Asylums Board. We can only hope the time may come when their earlier notification will improve the chances of successful treatment, and that medical officers of health will be empowered in the future to insist upon their removal to a fever hospital as infectious cases when their home surroundings are considered unsuitable for successful treatment. The example of Manchester in this respect is one that might well be copied by other cities.

[1] Vide THE LANCET, Nov. 25th, 1905, p. 1560.

THE MEDICAL SOCIETY OF LONDON AND THE AMALGAMATION OF SOCIETIES.

A SPECIAL general meeting of the Fellows of the Medical Society of London was convened on May 7th to consider the following proposal by the council of the society:—

> That whilst asserting the desirability of an amalgamation of the various medical societies of London into a Royal Society of Medicine, the Medical Society of London can only agree to join in this effort provided: first, that the financial position of the new body is found to be satisfactory after the financial accounts of the various societies have been thoroughly investigated; and, second, that the privileges of the Fellows of the Medical Society are carefully safeguarded."

The question of the amalgamation of the London societies, details of which have from time to time been given in our columns, has reached a somewhat critical stage. The action of the Medical Society of London in the matter has been looked forward to with some interest, for it appears to some to be doubtful if a satisfactory financial basis can be arranged without its aid. The above proposal was very fully discussed last Monday, and not without a considerable degree of criticism. It was pointed out by several of the speakers that in return for the large contribution of books and money which would have to be made by the Medical Society, although some of the rights and privileges of the Fellows would be safeguarded, there were others which would not, such, for instance, as the case of general practitioners and country Fellows. However, some of the Fellows urged that in the interests of medical science and for the general good a further attempt should be made to clear up the difficulties of the position. In the end the proposition of the council was carried by 44 to 11 votes, a comparatively narrow majority over the three-fourths of the Fellows present necessary to carry a resolution of this special character. Had the proposition not been carried

no further action by the Medical Society in the amalgamation would have taken place. As matters now stand, the Medical Society has expressed its approval of the principle of amalgamation provided the necessary financial investigations and arrangements can be made and the privileges of its Fellows guarded. In the interests of scientific progress it is to be hoped that the coöperation will become possible.

THE PLAGUE OF INGENUITY.

IN many ways human ingenuity is a plague to modern life and there is some excuse for the view of a great man who regarded the inventor of railways as a curse to his race. The truth probably is that no invention is at first perfect and we have to suffer from its transitory imperfections. We dare say that the motor-car is a triumph of locomotion but no one can deny that it has drawbacks. London has recently been invaded by the motor omnibus and most people recognise its convenience and advantage as regards its celerity of service, but this is terribly discounted by the stench and noise which apparently are inevitably attendant upon its progress. Until motor vehicles have wings, we have heard it said, they will always be an eyesore, an earsore, and a nosesore. While not prepared to accept that view, at any rate, as a condition of things likely to last, we must admit that the accessories of modern life in general are placing greater and greater strain on the faculties of the individual. His eyes are strained by the intense artificial lights, his ears are worried by the unnecessary din of the streets, and his nose is offended by the vapourisation of offensive fumes of oil or by the fœtid air of the "tube." That simpler life appeals to him more than ever which removes him from the maddening sphere of the inventors' activities. Still, after all, the human machine is wonderful in its power of adapting itself to a new environment and just as few now look upon the railway, as was formerly the case, as a really offensive invention so in time to come the present distresses inflicted upon us by modern ingenuity will, it is to be hoped, gradually disappear partly by the process of adaptation and partly by improvements resulting in mitigation of the kind of evils referred to. One thing at least may be said and that is, on no account should a modern invention be tolerated, however convenient it may be in one direction, unless it satisfies hygienic requirements.

EDWARD JENNER ON ANTIVACCINATIONISTS.

IT is curious to find that Edward Jenner believed in the power of Parliament to put an end to what we now call "the Antivaccination Movement." In an unpublished letter, the property of Mr. William J. Treadgold of Derby, Edward Jenner, writing under date Jan. 16th, 1807, says: "My movements will be regulated by those of the College of Physicians and the House of Commons. The former have not yet finished their inquiry, which will, when completed, be laid before the House. This inquiry will lay all the troublesome ghosts which have so long haunted the metropolis with their ox-faces and dismal hootings against vaccination. However, 'tis all for the best. You may depend upon it the new investigation will prove the touchstone of the vaccine discovery." The report of the College of Physicians was so strongly in favour of Jenner that the House of Commons voted him £20,000. On the continent, too, he was almost worshipped. A certificate signed by him took the place of a passport in some countries, while Napoleon the Great and the King of Spain released prisoners of war at his request. Nevertheless, the "ox-faces" at home were unabashed. *The Cow-pox Chronicle* seems to have been the antivaccinationist organ of that day. Baron refers feelingly to "its atrocious falsehoods, its coarse and disgusting ribaldry, and its impious scurrility." Vaccination was often a subject for debate. In March, 1808, the "British Forum" debating society solemnly discussed the following question: "Which has proved a more striking instance of the public credulity, the gas lights of Mr. Winsor or the cow-pox inoculation?" Both gas light and vaccination were "handed over to scorn and ignominy."

A CONFERENCE OF CHARITY ORGANISATION SOCIETIES.

WE understand that a conference of charity organisation societies will be held at Tunbridge Wells on June 11th, 12th, 13th, and 14th, and that invitations to it are being issued by the committee of the Tunbridge Wells Charity Organisation Society. There will be a reception by the Mayor at the town-hall on June 11th, at 8 P.M., and a garden party will be given by Miss Crothers at Southborough on June 12th. On June 12th, 13th, and 14th papers will be read on the following subjects: (1) the Royal Commission on Vagrancy Act (with special reference to Enforced Labour Colonies); (2) the Feeding of School Children; (3) Constructive Charity; and (4) Guilds of Help (adoption of the Elberfeld system). Each paper will be followed by a discussion. It is also proposed to hold a private meeting of members of charity organisation societies on June 14th, at 10.30 A.M., to consider the subject of Thrift. Arrangements will be made for an excursion to Penshurst Place and Lingfield Epileptic Training Home on the afternoon of June 13th. Colonel E. D. Newnham-Smith is the President of the Charity Organisation Societies Conference Committee. All communications should be addressed to Miss Rix, the honorary conference secretary, 32, Dudley-road, Tunbridge Wells.

POISONING BY PICRIC ACID.

CERTAIN remedies used in surgery occasionally produce symptoms caused by their absorption into the system. Amongst such substances iodoform and carbolic acid most frequently give rise to untoward phenomena. In THE LANCET of April 28th, p. 1175, we published the record of a case which occurred in the Radcliffe Infirmary, Oxford, in which picric acid applied to burns produced evidences of poisoning in the patient. Picric acid is trinitrophenol and is formed by the action of nitric acid on phenol. In this case the most important manifestations were referred to the skin and the urine, although the constitutional symptoms were severe. An eruption, in many respects resembling measles, appeared over part of the neck, the whole of the chest, the abdomen, and the back, the arms as far as the wrists, the front of the thighs, the calves, and the insides of the knees. It was absent, however, from the face and behind the ears. Picric acid has the effect after absorption of combining with the hæmoglobin of the blood corpuscles and of displacing the weaker combination in them of oxyhæmoglobin, thus preventing the normal metabolism of the tissues. Methæmoglobin is formed and can be recognised by its peculiar absorption band in the spectrum. Certain changes are also found in the blood corpuscles. Professor Erb found distinct nuclei in the red discs and free nuclei in the serum; the white blood corpuscles show a tendency to numerical increase. The urine is frequently red in colour; the poison is mainly eliminated by the kidneys and doubtless the changes in the urine are due to the reaction which occurs in the blood. The urine in this particular case was examined by Dr. W. Ramsden of the Oxford Physiological Department. The first sample examined was rich with some abnormal pigment. This pigment was

carried down with the earthy phosphates precipitated by heat, the precipitate having a rich brown colour. The exact nature of the pigment could not be ascertained, but the tests for hæmatoporphyrin, methæmoglobin, and hæmatin proved negative. The case is well worthy of record. We are not aware of any evidence that has been brought forward of idiosyncrasy in respect of such drugs as picric acid, carbolic acid, or iodoform, though possibly it may exist. The occurrence of instances of poisoning by these substances naturally does not prohibit the use of such valuable medicaments but indicates that they must be employed with caution. We believe that no fatal case of poisoning by picric acid has occurred when the drug has been used for medicinal purposes, but in THE LANCET of August 5th, 1891, an instance was reported of a man who worked in a melinite factory and inhaled fumes of nitrous acid and volatilised picric acid. Severe dyspnœa ensued, with cough and spasm of the glottis. Picric acid was found in the urine. Parenchymatous nephritis followed and death ensued.

UNIVERSITY COLLEGE, LONDON (UNIVERSITY OF LONDON).

A COURSE of eight lectures on the Structure and Functions of the Central Nervous System, with special reference to the Brain Stem, will be given in the physiology department by Dr. W. Page May, Fellow and lecturer of the College, on Wednesdays at 5 P.M., beginning on Wednesday, May 16th. The syllabus of the lectures is as follows:—1. Elements of the Nervous System; Neurons; Methods of Investigation; Anterior and Posterior Spinal Roots. 2. Spinal Cord; General Structure; Conduction and Localisation. 3. Centres and Conducting Paths in the Medulla Oblongata. 4. The Pons; Origin of Cranial Nerves. 5. The Cerebellum. 6. The Mid-brain and Corpora Quadrigemina. 7. Optic Thalamus and Basal Ganglia. 8. Certain Motor and Sensory Paths; Summary. These lectures are open to all students of the University of London, also to qualified medical men on presentation of their cards and to such other persons as are specially admitted.

THE TOXIC EFFECT OF OZONE AND OTHER OXIDISING AGENTS ON LIPASE.

ON being asked to describe the odour of small quantities of ozone two out of six persons, not versed in chemistry, described it as similar to that of prussic acid. This reply led Mr. J. H. Kastle, Ph.D., to investigate the action of ozone on lipase, in order to determine whether ozone, like hydrocyanic acid, was a protoplasmic poison. The results of this work are published by the United States Government in an official bulletin.[1] The ozone used in the experiments was obtained by the electrolysis of acidulated water and the lipase from the liver of the hog. The effect of ozone on lipase was determined by exposing a clear solution of the ferment to the action of a known weight of ozone at the ordinary temperature for a given time. It was noticed that after the lapse of 24 hours the odour of ozone had disappeared and the solution had become cloudy and contained a perceptible coagulum. The lipolytic action of this solution was then ascertained by determining the weight of ethyl butyrate which it was capable of hydrolysing under the conditions described in the paper. It was found that an amount of lipase capable of hydrolysing 0·058 gramme of ethyl butyrate in six hours was practically destroyed when exposed to the action of 1·009 milligrammes of ozone for 40 minutes. These results are in accord with those of Sigmund who has shown that ozone is poisonous to invertase, pepsin, emulsin, and other ferments. Dr. Kastle extended his inquiry to other oxidising agents and antiseptic substances and found that so far as their toxicity or non-toxicity towards lipase is concerned they fall into three distinct groups. The first group includes silver nitrate, iodic acid, formic aldehyde, the cresols, hydrocyanic acid, potassium nitrite, and succinic acid, which are practically non-toxic. Mercuric chloride, chromic acid, copper sulphate, and perosmic acid form the second group and are moderately toxic. The last group consists of powerfully toxic substances, including ozone, chlorine, bromine, sodium fluoride, iodine cyanide, and potassium permanganate. It is of interest to note that the first two groups contain a number of substances which are highly toxic to many living forms, whereas with one exception the last group is composed of powerful oxidising agents.

[1] No. 26. Hygienic Laboratory, U.S. Public Health and Marine Hospital Service, Washington. Pp. 51. 1906.

THE ROYAL INSTITUTE OF PUBLIC HEALTH.

THE lecture arrangements at this institute for the summer session of the current year are as follows. Dr. Carl Prausnitz of Breslau, demonstrator of bacteriology and comparative pathology in the institute, is giving a course of three lectures upon the Bacteriology of Water and Milk and upon Tuberculosis. The first lecture was delivered on May 9th and the other two will be delivered on May 16th and 23rd respectively, in the lecture theatre of the Institute, 37, Russell-square, at 5 P.M. Dr. William R. Smith is giving a course of five lectures on the Law of Public Health. The first lecture was delivered on May 8th and the remaining four will be delivered on May 15th, 22nd, 29th, and June 5th, at 5 P.M. Mr. Charles E. Harris, Ph.D., demonstrator of chemistry in the institute, will deliver three lectures on the Manufacture and Sophistication of Potable Spirits. The lectures will be delivered on successive Tuesdays at 5 P.M., commencing on June 12th. The Harben lectures for 1906 will be delivered by Professor Elie Metchnikoff of the Pasteur Institute, Paris. The lectures will be given in French in the lecture theatre of the Royal Institute of Public Health, 37, Russell-square, London, W.C., on Friday, May 25th, Monday, May 28th, and Wednesday, May 30th, at 5 P.M. Lecture I. deals with the Hygiene of the Inner Tissues of the Organism; Lecture II. with the Hygiene of the Intestinal Tract; and Lecture III. with Syphilis. The attendance of those interested is invited.

THE CHILDREN'S HOME HOSPITAL, BARNET.

THIS excellent institution is in great need of funds for rebuilding. It was founded in 1890 and provides for that very class of cases which the ordinary convalescent homes as a rule must exclude—namely, those which require careful supervision and special surgical treatment. The 14 beds, which can be increased to 15 on emergency, are always full and the weekly payment for a child is only 3*s.* 6*d.* The authorities of the hospital are in a position to purchase half an acre of land on Hadley Green upon which to rebuild the hospital but a sum of £2500 is urgently needed. The hospital is at present established in an ordinary house which is by no means an ideal building for a hospital. For instance, there is only one room for the use of the staff and the patients, and the two nurses have to occupy the same bedroom and have no sitting-room, a circumstance which makes it difficult to obtain and to keep efficient nurses. What is wanted, to quote the words of one of the honorary consulting surgeons, "is a building in the bungalow style, in which every window opens on to a veranda, so that the children can be wheeled on their beds into the open air. This is absolutely impossible in the present building, which is a simple dwelling-house and does not even possess the ordinary amount of garden space of a suburban villa." The patients of this hospital belong for

the most part to a class for whom it is most difficult to find treatment. As a rule, they are tuberculous children suffering from chronic affections of the joints or rickety children suffering from chronic forms of malnutrition. These are just the cases which the ordinary convalescent homes naturally will not take. This hospital does excellent work and we commend this appeal to the notice of our readers, in the hope that they may influence those whom they may come across to help to provide the much-needed sum of £2500.

THE CENTRAL MIDWIVES BOARD.

AT its meeting on May 3rd the Central Midwives Board was occupied in hearing various charges brought against midwives for contravening the rules of the Board. In the cases of six women their names were ordered to be taken off the roll of midwives. In five of these cases the midwives had failed to carry out the regulations of the Board with regard to the proper use of antiseptics, the proper care of the patients, the keeping of a register, or the neglect to send for medical assistance when it was necessary for them to do so. In one of the cases the midwife was convicted of drunkenness on several occasions. In the remaining case the midwife was censured and it was ordered that a report should be furnished of her conduct in three months' time. In this instance the woman was accused of neglecting to tie the cord properly, thereby causing the death of the infant; she had failed also to notify the death of the child to the local supervising authority and she did not keep a register of cases as required by the rules of the Board. We note with satisfaction the fact that the Board is making good use of the disciplinary powers conferred on it in removing from the roll the names of midwives who fail to carry out the rules and regulations laid down by it. The omission on the part of midwives to provide themselves with proper appliances or to carry out proper antiseptic precautions is a very serious offence and should be punished with all severity. It is to be hoped that local supervising authorities will not be slow in reporting to the Board all cases of breaches of the rules of too serious a nature for them to deal with locally. In this way only will it be possible to convince midwives all over the country that they will neglect the rules of the Board at their peril and that they run the very serious risk of having their names removed from the roll if they are reported to the central authority. For this purpose the loyal coöperation of all local supervising authorities is of the utmost importance not only in attending to the proper supervision of the midwives in their district but also in seeing through their officers that the Act and its regulations are efficiently carried out.

A COURSE of four lectures on clinical surgery will be delivered at the London Hospital Medical College (University of London) by Mr. Jonathan Hutchinson, F.R.S., emeritus professor of clinical surgery to the hospital, on the following dates: June 12th, on the Transmission of Syphilis to the Third Generation; June 19th, on Syphilis and Tuberculosis; June 26th, on Tuberculosis and Diseases of the Skin; and July 3rd, on Diseases of the Skin caused by Insects. The lectures will be given in the clinical theatre at 3 o'clock. They are free to all students of the University and to medical graduates.

THE annual meeting of the Dermatological Society of Great Britain and Ireland will take place at 11, Chandos-street, Cavendish-square, London, W., on Wednesday, May 23rd, at 4.30 P.M. Dr. Sabouraud will give the oration on the Radio-therapeutics of Ringworm in the Municipal Laboratory of the City of Paris at the Hospital of St. Louis. The President and council hope that members of the profession interested in Dr. Sabouraud's work will honour the society by their presence at the meeting.

THE annual dinner of the British Balneological and Climatological Society will be held at the Imperial Restaurant, Regent-street, London, W., on May 16th, at 7.30 P.M. Dr. F. T. Roberts will be the guest of the society. Previously to the dinner an ordinary meeting will be held at 20, Hanover-square, at 5.30 P.M., when Dr. Roberts will deliver an address entitled "Some General Comments on Balneology and Associated Methods and on Spas."

Dr. Auguste Broca, president of the Society of Pediatrics and surgeon to the Hôpital des Enfants Malades, Paris, will deliver the Wightman lecture before the Society for the Study of Disease in Children, on the subject of Appendicitis, at the rooms of the Medical Society of London, 11, Chandos-street, London, W., on Friday, May 18th, at 5.30 P.M. The lecture is open to all medical men.

Sir Henry D. Littlejohn, LL.D., will preside at the next dinner of the Edinburgh University Club of London, which will take place on Wednesday, May 16th, at the Criterion Restaurant, Piccadilly-circus, London, W. Amongst those who have accepted invitations to be present are Sir William H. Broadbent, Sir Thomas Stevenson, Sir Shirley F. Murphy, and Colonel Greig.

WE are informed that the Long Vacation classes to be held this year in the medical school of the University of Cambridge will, besides the ordinary classes in general pathology and pharmacology, include a series of shorter courses dealing with more advanced work. Further particulars are given in our advertising columns.

AN extraordinary general meeting of the National League for Physical Education and Improvement will be held at Denison House, Vauxhall Bridge-road, near Victoria Station, London, on Wednesday, May 16th, at 4 P.M. The Bishop of Ripon will preside. All members of the Twentieth Century League have been invited.

THE Medical Society of London will hold a conversazione in the rooms of the society, 11, Chandos-street, Cavendish-square, London, W., on Monday, May 21st, at 8.30 P.M. At 9 o'clock an oration will be delivered by Professor Kocher of Berne, the subject being "Some Contributions to the Pathology of the Thyroid Gland."

THE annual meeting of the National Health Society will be held at Grosvenor House by the kind permission of His Grace the Duke of Westminster on May 21st at 4 P.M. The Right Hon. the Earl of Derby will preside.

THE next session of the General Medical Council will begin on Tuesday, May 22nd, at the office of the Council, 299, Oxford-street, London, W., at 2 P.M. The President, Dr. Donald MacAlister, will be in the chair.

Professor Kocher of Berne is to deliver the annual address of the Cardiff Medical Society on May 25th. He has chosen as his subject Graves's Disease.

ROYAL HOSPITAL, RICHMOND, SURREY.—Mrs. Swan of Teddington, widow of the late Mr. B. B. Swan, has contributed a sum of £4000 for the building and equipment of two new ophthalmic wards and the necessary accommodation for nurses at this hospital. The buildings will be known as the Benjamin Bousfield Swan Wing. In order that the income of the hospital may not suffer by the demolition of certain cottage property which belongs to the hospital Mrs. Swan has generously contributed a further sum of £2000 to the endowment fund.

THE EARL OF CROMER'S REPORT ON EGYPT FOR 1905.

Lord Cromer's annual report on Egypt is even longer than it was last year but, as usual, it can be read from end to end with both pleasure and profit. In the opening paragraph we are told that 10,160 copies of the last report were distributed, 4800 in Arabic, 4442 in English, and 918 in French, so the author is perfectly right in concluding that a sufficient interest in his reports is shown by the public to justify the continuance of their publication.

In his first chapter Lord Cromer deals with "the system generally known as the *régime* of the capitulations in Egypt." This is a matter of the highest interest to sanitarians, for under the capitulations as at present enforced it is perfectly impossible to safeguard the public health in Egypt with complete success. The officials of the sanitary department are heavily handicapped in their contest with preventable diseases, the infecting germs being unfortunately uninfluenced by considerations to which international jealousy attaches overweening importance. The health officers cannot do their work properly; and when epidemics gain ground they are not only exposed to undeserved blame but also have to support the chagrin which attends on defeated effort. A good illustration of this hardship is shown in the following extract from a report by Sir Horace Pinching which is quoted by Lord Cromer: "48 cases of small-pox occurred, half of which were among Europeans, and were entirely due to the neglect of vaccination on the part of the poorer classes of Europeans." With the natives of Egypt vaccination is compulsory, but it cannot be enforced among foreigners who are not even compelled to declare that they have conscientious objections to it. It is probably, therefore, through sheer carelessness that their children remain a standing source of danger to the natives among whom they live.

Lord Cromer's task is a difficult one. At present, he says, no change can be made in any law applicable to Europeans without the unanimous consent of nearly all the Powers of Europe and of the United States of America, and experience has shown that even in relatively minor matters the process is so tedious and beset with so many difficulties that as often as not the Egyptian Government abandons the negotiations in despair of ever arriving at any practical result. He accordingly proposes that with the exception of Great Britain all the Powers shall cease to exercise legislative functions. The scheme which he suggests is formulated in 17 clauses but of these the second contains the essence of the whole. It provides for the creation of a separate Council composed wholly of subjects of the Powers which instituted the mixed tribunals, and legislation passed by a majority of this Council when promulgated by the Egyptian Government with the assent of His Britannic Majesty's Government shall be binding on all foreigners resident in Egypt. In one of the minor clauses it is laid down that the preservation of Egypt from disease should lie entirely within the functions of the Egyptian Government which would have to submit any proposed measures that it might wish to adopt to the European and native branches of the legislature unless it were in its power to enact those measures without special legislation, while in another it is proposed that an engagement should be entered into by both the British and Egyptian Governments that every reservation in favour of British subjects should enure for the benefit of the subjects of other Powers.

In the interests of the *suprema lex* it is devoutly to be wished that Lord Cromer's suggestions may be promptly adopted and that ere long the maintenance of potential centres of disease in the midst of the Egyptian population may be constituted a punishable offence against the public security as great as if the persons responsible for them had scattered dynamite broadcast where it was liable to be exploded.

As regards medical and sanitary affairs generally Lord Cromer's report indicates some progress but the great question of the drainage of Cairo is not mentioned. Should the capitulations be abrogated it ought then to become possible to proceed with this essential work which was first proposed and accepted theoretically in 1890. It is owing to the apathy or ill-will of the Powers that the project has remained in suspense for so many years. Writing in Lord Cromer's report for 1894 Sir William Garstin stated that a law empowering sanitary inspection and expropriation of land was required before the Cairo drainage scheme could be undertaken and that the Powers had not consented, although a formal application to them to do so had been made in July, 1893. That the sewerage of Cairo is a matter of extreme urgency is shown by the death-rate. According to the returns for the first fortnight in January last (which should be about the healthiest part of the year) the mortality among the native and European inhabitants respectively was at the rate of 34·0 and 31·7 per 1000 per annum. Typhoid fever[1] and other affections usually associated with defective sanitation are still very prevalent in Cairo in spite of the greatly improved surface cleanliness, the excellent water-supply, and the magnificent climate. The longer the drainage question is postponed the more expensive it will become. Every year streets are being paved and asphalted. Last year, Lord Cromer says, £E.27,000 were spent on these improvements. The advantage, for the moment, is no doubt considerable but when sewers are laid the work will have to be done a second time. At the present time 47 per cent. of the total area of roads in Cairo are entirely unpaved, while 28 per cent. more are merely macadamised with soft limestone. The sooner the drainage works are undertaken the better it will be from every point of view, sanitary or financial.

In his chapter on Public Health Lord Cromer gives some interesting information with regard to the progress which has been effected in connexion with medical and sanitary affairs. The number of in-patients treated in the Government hospitals during 1905 was 29,237, against 27,921 in 1904; 125,128 out-patients were treated in the hospitals and dispensaries. About £E 25,000 have been provided in the estimates for the current year for the construction of new, or for the improvement of old, hospitals. Of this sum £E.9000 are to be spent on a hospital for contagious diseases at Alexandria. Owing to a want of accommodation in the Abbassieh Lunatic Asylum (the only asylum in Egypt) it is still necessary to overcrowd the building and also to discharge patients prematurely. There is good reason to expect, however, that before long additional accommodation for about 300 lunatics will become available at Abbassieh, bringing the total number of beds up to 812, and also that a second asylum, to contain 600 beds, will be built in a suitable position a few miles to the north of the present one. For the construction of the new establishment about £E.107,000 will be required, and in order that a commencement may be made a sum of £E.20,000 has been included in this year's estimates. On the subject of the water-supply of towns Lord Cromer has a good deal to say. Alexandria is now well supplied. Since last June much of the water that is supplied to Cairo has been pumped from artesian wells sunk to the north of the town. More wells are in process of being sunk and eventually the whole district will be supplied from this source. Mansourah has been given wholesome water at a cost of £E.26 000. The waterworks at Damietta are nearly completed; when finished the town of Esbet-el-Borg will receive its supply from them and water will also be furnished to Ras-el Bar, a fashionable resort at the *embouchure* of the Nile, opposite Esbet-el-Borg, where between 3000 and 4000 visitors assemble during the summer months, living in grass huts, and enjoying unrivalled sea-bathing and cool sea breezes. Plans are also being prepared for waterworks at Zagazig, Meroof, Mehalla-el-Koubra, Ziftch, and Mit Ghamr, and it is expected that work will be commenced at these places in the course of the current year. In the opinion of the head of the Egyptian Sanitary Department, Sir Horace Pinching, the provision of a pure water-supply is "the most important step taken up to the present by the Government in the direction of improving the general hygienic condition of the country." As a rule, the procedure has been greatly appreciated by the population and petitions are constantly received begging the Government to extend the system to the petitioners' towns; but, on the other hand, prejudices against the use of well-water still exist. Sir H. Pinching has been assured that the women often think that it causes their hair to fall off.

Lord Cromer's remarks under the head of malaria are very interesting. "I have alluded in former reports," he says, "to the very successful results obtained at Ismailia in combating

[1] The recent death in Cairo of Sir Elwin Palmer, who for some years was financial adviser to the Egyptian Government, was caused by typhoid fever.

malaria by the adoption of the system initiated by Major Ross. During the past year the campaign against mosquitoes was commenced at Suez. The results have been distinctly satisfactory. The number of in-patients treated in the Government hospital for malarial affections during 1905 was 91, as compared to 118 in 1904, whilst the number of out-patients fell from 405 to 260." Dr. J. E. Cresswell reports: "This does not show the real benefit, great as it is. During the last few years an intimate knowledge of the people has led me to estimate that in the Fagalla quarter 25 per cent. of the inhabitants were infected, 75 per cent. in the Arbaeen and 100 per cent. in the gardens. Also, one member of a family would come to the out-patients' department and take home quinine to the other sick members of the family; this year they said there was no fever so far as the town was concerned." In spite of this improvement, continues Lord Cromer, it will be necessary to drain the marshes near Suez and to adopt other remedial measures before the fever can be extirpated completely. A campaign against mosquitoes is also being instituted at Port Said.

(To be concluded.)

HAMPSTEAD GENERAL HOSPITAL.

A SUCCESSFUL conference of the local profession on the management of the Hampstead General Hospital took place on May 5th, at the Hampstead Conservatoire, under the auspices of the Hampstead division of the British Medical Association. Mr. F. R. HUMPHREYS, chairman of the division, presided.

There were many members of the Hampstead division present, as well as some members of the St. Pancras division (which had agreed to the motions to be placed before the conference), and many local medical practitioners who did not belong to the Association.

The proceedings opened by the CHAIRMAN calling upon the honorary secretary of the Hampstead division to read the resolution of the division, passed on April 6th, convening the conference.

The CHAIRMAN then gave a short address explaining the condition of things which had led up to the present meeting. He pointed out that the hospital was founded under the Companies Act, as a limited company, in 1882, and gave extracts from the memorandum and articles of agreement which showed that the objects for which it was started were "the providing of a home hospital and nursing institute for the benefit of persons who are unable to obtain in their own homes the accommodation, care, nursing, and attention which they require when overtaken by sickness or accident" and that it "is designed primarily for the benefit of persons residing in Hampstead," permitting persons residing outside the borough to "be admitted to the benefits of the hospital, subject to such restrictions and upon such terms as the council shall from time to time think fit." He pointed out that free beds were not provided until 1893 and that the out-patient department had not been started until 1896. He observed that there were few or no persons in Hampstead (except paupers) who were unable to pay the fees of the provident dispensary, which for 11*d.* per month provided a man and his wife and unlimited children with medical attendance during sickness. The health of Hampstead was shown by the report of the acting medical officer of health of the borough, Mr. F. E. Scrase (on whose report, just issued, he begged to congratulate him), to be considerably better than any other part of the County of London, and the same report mentioned that there were eight public institutions for the sick and infirm within the borough and that 40 similar institutions outside it had received Hampstead residents during 1905. He added that within three miles of the Hampstead General Hospital there were seven general hospitals and at least 15 special hospitals, nearly all of which had out-patient departments; there were other neighbouring medical institutions in addition to these. So that neither Hampstead nor the surrounding district appeared to be in want of a general hospital in Hampstead. However, he recognised that that institution existed and had to be made the best of. In December last the hospital had made a new start in the new building on Haverstock-hill and was presented with the sum of £20,000 to pay off the expense of rebuilding. The King's Fund had at different times given £4500 to the same funds and its executive had recently stated that they were prepared to recommend a further donation of £5000 to the same object, coupled with the suggestion that a consulting staff should be appointed. The existing staff consisted of general practitioners who did their work to everybody's satisfaction. The chairman stated most emphatically that the present agitation was not in any way directed against the medical staff of the hospital and that all such action had been most carefully excluded from the earlier proceedings. There was no ethical question touched: only large issues were under discussion.

Mr. H. W. ARMIT then moved motion 1 on the agenda:—

That an out-patient department in Hampstead is unnecessary.

The motion was seconded by Dr. G. D. PIDCOCK.

Dr. E. COLLINGWOOD ANDREWS, a member of the staff of the hospital, speaking on behalf of his colleagues and himself, agreed with the last four of the motions before them, but asked for clear evidence on the first motion, such as could be investigated, that the out-patient department was abused. He was not prepared to agree that there were no poor in Hampstead. He said that disfranchisement followed sick attendance under the Poor-law and if out-patients were to be referred to the relieving officer this should be remembered.

Dr. J. FORD ANDERSON spoke to the effect that out-patient departments were unnecessary and that in Hampstead they were a superfluity.

Dr. M. DUTCH pointed out that it was difficult to give the names and addresses of persons who were believed to be ineligible for treatment at the out-patient department at which they had obtained relief. Such information might lead to an action for libel.

Dr. WALTER SMITH said that medical relief did not disfranchise, that 75 per cent. of the patients attending at the out-patient department of the Hampstead Hospital were said to come from St. Pancras, and his experience as a guardian there was that large numbers of those who, on account of the possession of means, were refused relief under the Poor-law went to the out-patient departments of hospitals and improperly obtained treatment there. He had known Hampstead for 30 or 40 years and there was less poverty there than anywhere else in London.

Mr. H. C. PARSONS moved as an amendment:—

That motion 1 be postponed until adequate reasons had been given by the secretary (of the meeting) to the staff which they could put before the council and cause the closing of the out-patient department.

He said that he moved this amendment, as without the coöperation of the staff nothing could be done with the hospital. No adequate reasons were given in motion 1 for the closure of that department.

Dr. W. COODE ADAMS seconded the amendment. He said that the motion touched upon difficult and dangerous ground and that it was necessary to remember that the lay public had the last word. He was in general agreement with the motion but further investigation was required.

Mr. SCRASE (one of the staff of the hospital) supported the amendment and said that the hospital had an almoner who investigated the claims of the patients attending the out-patient department and that the latter were also required to produce "letters." The staff were quite willing to coöperate in abolishing it when it was proved that the out-patient department was abused. The Provident Dispensary was very poorly equipped for treating patients.

Dr. W. HEATH STRANGE said that so far from the Provident Dispensary being badly equipped some £1500 had been spent on it.

Mr. E. T. AYDON SMITH pointed out that the greatest part of the opposition to the closure of the out-patient department lay in the fact that the Hospital Saturday and Sunday Funds made grants depending upon the numbers of patients attended at the hospital and that the out-patients added very largely to the sum total. He had had personal experience of one hospital where various dental operations on a patient's mouth, given at the same sitting, were each reckoned as different attendances.

Dr. H. SHARMAN pointed out the enormous temptation to hospital authorities to keep up a large out-patient department. There were many large hospitals near Hampstead to which out-patients could go and where, at any rate, even if ineligible for attendance, they might be made use of for teaching purposes. He thought that the Hampstead Hospital

was an unnecessary institution altogether but recognised its existence.

The amendment was then put to the vote and lost by 16 to 34. On motion 1 being put to the vote it was carried by 40 to 7. A motion was then made that the remaining four motions should be put *en masse*. This was agreed to and the motions as follow were thereupon put before the meeting:—

2. That the casualty department be kept distinct from any other department and that casualty patients, if not suitable for admission, be seen once and thereon be referred to private practitioners, provident dispensaries, or Poor-law authorities.
3. That there be greater facilities for general practitioners of the neighbourhood to attend in-patients.
4. That there should be a *service* limit as well as an age limit to appointments to the medical staff.
5. That the outside medical profession should be *adequately* represented on the board.

Dr. L. G. GLOVER (one of the hospital staff) said that motion 2 was already carried out in practice and that when the new block was erected motion 3 would be carried out. If more pay beds (in which medical practitioners not on the staff could attend their own patients) were desired that would be agreed to. There would be general agreement about motion 4. With regard to motion 5, that would entail re-organisation of the hospital management, as there was no representation on that body, except from the Ladies' Association, which was a part of the hospital organisation.

Dr. ANDERSON spoke of the dangers of initial errors and said that as there appeared to be a medical re-organisation of the hospital in prospect it would be well to restart properly. He was of opinion that some of the motions did not go far enough; that there was a large amount of abuse, perhaps not very serious at present, which might easily extend itself. No medical staff was required for the hospital. A list of medical men ready to act if called upon in emergency was all that was required. It was essential that the local profession should be represented on the board of management by men not on the staff.

Mr. K. J. DOUGALL said that every local medical man ought to have an opportunity of attending his patients, to whatever part of the hospital they might be admitted. A rota of practitioners appointed for a month or so was all that was required.

Motions 2 to 5 inclusive were then passed *nemine contradicente*.

The SECRETARY then read the letter which had been sent out by the authorities of the Hampstead Hospital relative to the appointment of a consulting staff and quoting a letter from the executive of King Edward's Hospital Fund recommending the appointment of a consultant staff on the ground of the importance of the Hampstead General Hospital. The questions which the medical practitioners, addressed by the hospital, were asked to reply to included one in which a pure general practitioner staff was to be appointed as at present; a second as to an acting staff of consultant physicians and surgeons; and a third as to a mixed staff, composed partly of consultants and partly of general practitioners. The fourth asked for opinions as to the effect upon the popularity of the hospital likely to result from the change from general practitioner to consultant staff.

A motion was then proposed by Dr. SHARMAN and seconded by Mr. DOUGALL:—

That the work of the hospital be carried on by local practitioners but in addition a limited list of surgeons, physicians, and specialists not belonging to the neighbourhood be kept for consulting purposes.

Dr. H. OPPENHEIMER moved as an amendment—

That it is desirable both in the interest of the district and of the hospital itself that the Hampstead Hospital be carried on as a purely local institution, not as a large general hospital, and that therefore an acting staff of consultants is not in accordance with the spirit of its constitution.

This was seconded by Mr. R. HENSLOWE WELLINGTON.

Dr. COLLINGWOOD ANDREWS said that the hospital medical staff dissociated themselves entirely from the circular. They had had nothing whatsoever to say to it and were not consulted about it.

Mr. E. JESSOP said that the hospital staff had come there in an evidently friendly spirit, desirous of meeting the local medical profession not on the staff, and that it was desired to retain the present staff in office. There was no such thing as a pure consultant in London, they were merely rival practitioners, and he could not support the appointment of a staff of this nature.

Dr. SHARMAN said that it might be desirable to call in pure surgeons in the case of the performance of major operations at the hospital.

The CHAIRMAN remarked that this was done at the Willesden Cottage Hospital.

Dr. FORD ANDERSON mentioned the analogous case in respect to the Putney General Hospital as proposed. The local profession there were not desirous of a staff of consultants, but the terms of the deed of gift to that institution required the founding of a general hospital within a limited time or the money would go elsewhere. A compromise permitting a consulting staff to perform operations seemed likely to be the solution of the difficulty in the Putney case.

Dr. L. GLOVER pointed out that the Hampstead Hospital already had a staff of consulting physicians and surgeons. He said that the reason why there was so much dislike to the performance of surgery by general practitioners was that general practitioners had not formerly had the opportunity of performing many operations.

The CHAIRMAN inquired whether there was any limit to the operations performed in the Hampstead Hospital and whether the hospital rules required a consultation to be held prior to an operation. He pointed out that the absence of any restrictions in such matters might well account for the suggestion of the executive of the King's Fund for the substitution of an acting staff of consultants.

Dr. L. GLOVER replied that there were no such rules in force, either to limit the operations performed or as to their being preceded by a consultation. In practice eight out of ten of the operations were preceded by a consultation.

The amendment was then put to the meeting and carried with one dissentient. A rider was then moved by Mr. JESSOP:—

That the work of the hospital be carried on by local practitioners, but in addition a limited list of physicians, surgeons, and specialists not belonging to the neighbourhood be appointed, who shall give their services in consultation as desired by the acting staff of the hospital.

But it was felt by the meeting that the rider introduced matters which it was desirable to avoid and the rider was withdrawn.

A protest was made by Mr. W. B. PEARSALL against the exclusion of Irish degrees from the medical qualifications required to be held by the staff prior to appointment.

On "the steps to be taken to carry into effect the objects of this conference," Dr. OPPENHEIMER moved that three or four members of the present meeting should be elected to coöperate with the local division of the British Medical Association and to take all steps deemed advisable, with power to add to their number. This was seconded by Dr. E. CLAUDE TAYLOR and carried *nemine contradicente*.

The following gentlemen were then nominated and agreed to: Dr. J. R. Whait, Dr. Walter Smith, Dr. Taylor, and Mr. Parsons.

The meeting terminated with a vote of thanks to the Chairman.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

THE London and Counties Medical Protection Society held its annual general meeting, under the chairmanship of Dr. G. A. HERON, on May 4th, at 31, Craven-street, Strand, London, W.C.

The annual report gave many examples of the value to a member of the medical profession of belonging to a defence society, the following cases taken being good instances. A consulting physician received a demand from the solicitors of a patient for the return of all fees, subject to an action for damages for unskilful treatment. It seemed possible that the physician's diagnosis of an obscure ailment had been wrong but the complainant's solicitors were informed that the fees would not be returned and that the society would defend its member in any legal proceedings. No further action took place. Another member received a letter from the husband of a patient, accusing the member of causing his patient prolonged suffering by an alleged error in treatment, the treatment consisting in a bath of a pound of potassium sulphate to 30 gallons of water, when a troublesome dermatitis supervened. The member was advised how to reply and he was recommended to enforce payment of his fees, applying to the society for further assistance if occasion arose. No further assistance from the society was required. In another case a claim was

made against a medical man attending a hospital out-patient department for notifying a case as scarlet fever which was subsequently certified by the fever hospital not to have been scarlet fever. The claim was repudiated on the member's behalf and the complainant then instructed solicitors. The complainant's solicitors were written to and shown that there was no legal claim against the medical man even if he were mistaken, while there was much evidence in support of the view that the case was one of scarlet fever. The claim was not persisted in. A member of the society was unsuccessfully defended in an action brought against him by a club patient, claiming damages for libel and slander, the words complained of being written on a club certificate and uttered to persons officially connected with the club. The medical man relied on the communication being privileged but the jury awarded £150 damages against him, from which it would seem to follow that a practitioner should never, without the consent of the person examined (such consent being in writing or capable of legal proof), give his opinion of the nature of an ailment to anyone but the person examined. A member of the society was successfully defended against an accusation of adultery with a lady patient, a very accurate diary showing that misconduct could not have taken place on any of the occasions on which it was alleged, while the evidence was otherwise very weak. The jury unhesitatingly found the charge of adultery untrue. The judge said that there was not the slightest stain upon the medical man's character. All the expenses of the member's defence were borne by the society. The petitioner was ordered to pay a small periodical instalment towards defraying the costs.

The CHAIRMAN, in moving the adoption of the annual report and balance-sheet, referred to the satisfactory financial condition of the society. During the year 1905 446 new members were elected, 34 died, and 61 resigned their membership of the society because of retirement from practice, &c. The total membership at the end of the year was 3552; 226 members ceased to be in benefit owing to their subscriptions being in arrear. During the year 1905 the society's total income amounted to £2069 18*s.*, as compared with £1669 2*s.* 11*d.* during 1904. The total expenditure for the year amounted to £1786 3*s.* 8*d.*, leaving a surplus of income over expenditure amounting to £283 14*s.* 4*d.* At the end of the year the amount standing to the credit of the general account was £439 6*s.* 3*d.* and outstanding liabilities amounted to £137 0*s.* 9*d.* The reserve fund account stood at £2164 18*s.* 9*d.* and the total cash assets of the society stood at £2467 4*s.* 3*d.* In the course of his further remarks the chairman drew attention to the importance of the reserve fund and invited members to contribute towards it, and he suggested that when sending in their annual subscription the members should also remit some such sum as 10*s.* as a donation towards the reserve fund. He contended that this course was a most desirable one, because all must admit that the responsibilities undertaken by the society were very large, though the amount of the annual subscription was very small.

Dr. R. BOXALL seconded the motion, and this on being put to the meeting was carried unanimously.

After the transaction of some formal business the proceedings ended with cordial votes of thanks to the officers of the society.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the College was held on May 1st, Dr. J. PLAYFAIR, the President, being in the chair.

JOHN DIXON COMRIE, M.A., B.Sc., M.B., Ch.B. Edin., was introduced and took his seat as a Fellow of the College.

On a ballot the following candidates were admitted to the Membership of the College after examination: Augustus Kinsey-Morgan, M.D. Durh., M.R.C.S. Eng., Bournemouth; Edward Collett Hort, L.S.A., L.R.C.P. Irel., San Remo; William Augustine McEnery, L.R.C.P. Lond., M.R.C.S. Eng., San Francisco; Alfred Nolan Fell, M.B., Ch.B. Edin., Edinburgh; Russell Gerald William Adams, L.R.C.P. & S. Edin., Edinburgh; and J. William Keay, M.B., Ch.B. Edin., Edinburgh.

The REGISTRAR reported that since the last quarterly meeting 27 persons had obtained the Licence of the College by examination.

The CURATOR of the laboratory submitted his report for the last year. The report was adopted by the College.

Dr. James Andrew was re-elected as representative of the College on the Conjoint Committee of Management of the triple qualification.

It was intimated that Dr. A. R. Urquhart had been appointed Morison lecturer for the ensuing session.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 10th, 1828

TRIAL FOR DEFAMATION.—PARIS.

Roberts and Langeois, versus *Boyton, Morgan, Wilson, Chermside, and Maclaughlin.*

THIS cause, which was tried on the 10th of April, in the Tribunal de Premiere Instance, excited much interest amongst the faculty at Paris. The facts of the case, as we glean from the *Gazette des Tribunaux*, are as follows:—

An establishment for dispensing medicines, according to British prescriptions, was opened under the sanction of the Ambassador, Lord Granville, by Mr. Roberts, one of the plaintiffs; and having obtained the appointment of surgeon and apothecary to the Embassy, his affairs became very prosperous, the greater number of the English, resident in Paris, having recourse to Mr. Robert's establishment for their medicines. A M. Beral, a French apothecary, seeing the reputation which had been obtained by Mr. Roberts and his partner, M. Langeois, placed upon his door the title of London Dispensary, which, it seems, had previously been adopted by the plaintiffs. After a time it was found that the physicians to the Embassy recommended M. Beral's establishment in preference to Mr. Roberts'. This led to a publication of a letter in *Galignani's Messenge* , charging the physicians with having a direct pecuniary interest in sending their prescriptions to M. Beral. From this time there was open war between the parties, and in June, 1827, a letter, signed by thirteen *physicians*, was addressed to the British Ambassador, in which Mr. Roberts was styled a retail druggist, and was charged with having calumniated the *physicians*, by representing that they received a per-centage upon medicines. This denunciation of Mr. Roberts being credited by Lord Granville, led to the withdrawal of his official employment, and, as a consequence, he experienced a considerable loss of business generally. These circumstances induced Mr. Roberts to commence an action, and he therefore selected five of the physicians, who had been most active in the proceedings against him. At a former sitting, the defendants had pleaded the incompetency of the tribunal appointed to try the cause, as the party was a foreigner; but this objection was overruled, on the ground of Mr. Roberts' partner, a plaintiff in the action, being a Frenchman.

M. Laterrade, the counsel for the plaintiffs, in opening the case, spoke to the foregoing effect, and further stated, that the injury sustained by Mr. Roberts was 10,000 francs a year; he therefore demanded 20,000 francs as damages.

M. Dupin, the counsel for the defendants, rested his defence principally upon the fact of the publication of an advertisement in *Galignani's Messenger*, and also an article in the *Hygie* which stated, that the physicians, for the consideration of a certain annual sum, secured the supply of medicines to the apothecary.

M. Barthe made a very ingenious and humorous speech in reply to M. Dupin. He remarked that England certainly does possess many eminent physicians, but she is not so ungrateful as not to keep them at home by recompenses of every kind—reputation and fortune; and, whatever may be said to the contrary, he would contend, that persons do not *always* quit their country for the pure love of science; *he would appeal to Dr. Boyton if such were the case?* In England, said the learned counsel, diplomas, unless from Oxford or Cambridge, are but of little value; those obtained from Edinburgh are but very lightly estimated. One of Scotch or Irish origin may be had for forty guineas, upon the application being accompanied with a certificate of a physician of London, Cambridge, or Oxford, attesting that the party had attended medical lectures. A diploma from Scotland had been obtained for the horse of a nobleman, under the title of Mr. Goodfriend, a certificate having previously

been given that he was a gentleman of excellent disposition and great erudition. No matter as to the origin, continued M. Barthe; but where are the diplomas of the defendants? (Here M. Dupin held up *two* sheets of parchment, to each of which was affixed a seal.) M. Barthe then said, that these were the only diplomas possessed by the thirteen who signed the letter to Lord Granville. Upon application made at the office of the Minister of the Interior, he had learned that only one of the pretended physicians was authorised to practise the healing art in France, and this one possessed an Edinburgh diploma! Such are the *doctors*, said he, that Great Britain sends to France.

After a short deliberation, the Tribunal pronounced judgment, condemning the *Physicians* to pay 5,000 francs damages with costs, and to have twenty-five copies of the judgment posted up in the capital.

BRITISH MEDICAL BENEVOLENT FUND.

AT the April meeting of the committee of this Fund 13 applications were considered and the sum of £100 was voted in relief of those cases of which an abstract is appended. Two cases were passed over and two were postponed for further inquiry.

It was announced that the sum of £240 plus interest had been received from the trustees of the late Dr. John Grieve as the share allocated to the Fund out of the residue bequeathed by him to religious and benevolent societies. A donation of 50 guineas from the Edinburgh Harveian Society was also announced.

Mr. C. Stonham consented to act as honorary local secretary at the Westminster Hospital.

1. Widow, aged 42 years, of L.R.C.P., L.R.C.S. Edin., who practised in Cardiganshire. Quite unprovided for at husband's death and has had to sell practically all her furniture. Only one child able to help. Relieved once, £12. Recommended by Mr. R. Jones. Voted £12 in 12 monthly instalments.

2. Wife, aged 31 years, of M.R.C.S., L.R.C.P., who practised in Somersetshire, but is now confined in an asylum. Two children, aged nine and six. Has a little money in hand from the sale of the practice and will receive more during the next two years. Recommended by Mr. W. M. Beaumont (honorary local secretary). Voted £5 in one sum.

3. Widow, aged 59 years, of L.R.C.P. Edin., M.R.C.S. Eng., who practised in Yorkshire. Supported herself and assisted husband for 11 years by acting as housekeeper but now suffers from an incurable complaint. Slight help from children. Recommended by Dr. C. A. Lee. Voted £12 in 12 monthly instalments.

4. Daughters, aged 32 years and 67 years, of late M.R.C.S. who practised in Suffolk. Have supported themselves since father's death 24 years ago by keeping a boarding house but receipts have gradually decreased and now the furniture has been sold to defray the rent. Only income £15 a year. Recommended by Mr. T. J. Wayte. Voted £18 in 12 monthly instalments.

5. Widow, aged 59 years, of L.R.C.P., L.R.C.S. Edin., who practised in Northamptonshire. Income £18 a year from money left on trust; earns a little by needlework and receives slight help occasionally from a son. Health indifferent. Relieved five times, £50. Recommended by Dr. T. J. Walker. Voted £10 in two instalments.

6. M.D. St. And., M.R.C.S., L.S.A., aged 76 years. Used to have an excellent practice in London but it gradually dwindled owing to degeneration of the neighbourhood and competition. Only income a pension of £30 a year. Relieved twice, £24. Recommended by Mr. C. K. Moseley. Voted £12 in 12 monthly instalments.

7. Widow, aged 34 years, of L.R.C.P. Edin., who practised in Glamorganshire. No income. Two children, aged 11 and two and a half years. Endeavours to support herself by nursing but is unable to obtain constant work. Relieved twice, £10. Recommended by Dr. Joseph Bell (honorary local secretary). Voted £10 in two instalments.

8. Daughter, aged 63 years, of late M.R.C.S., L.S.A., who practised in Sussex. Income £20 a year from a charity. Health failing and very deaf. Relieved once, £6. Recommended by Dr. Frank Hinds. Voted £6 in 12 monthly instalments.

9. M.R.C.S., L.S.A., aged 66 years. Used to have an excellent practice in Staffordshire but has been quite incapacitated by paralysis and heart disease for five or six years, and is now dependent on a superannuation allowance from the guardians and such help as he can get from charities. Children unable to assist. Relieved four times, £60. Voted £15 in 12 instalments.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8793 births and 4955 deaths were registered in the week ending May 5th. The annual rate of mortality in these towns, which had been equal to 17·3 and 16·7 per 1000 in the two preceding weeks, further declined last week to 16·3. The mean rate in these towns during the first five weeks of the current quarter was 16·9 per 1000, while it was 17·3 in London. The lowest death-rates during last week in the 76 towns were 7·2 in Hornsey, 7·3 in Willesden, 7·9 in King's Norton, and 8·4 in Leyton; the rates in the other towns ranged upwards to 21·2 in Hanley, 21·7 in Norwich and St. Helens, 22·2 in Oldham, and 27·1 in Liverpool. The 4955 deaths in the 76 towns showed a further decline of 125 from the numbers in the two previous weeks and included 483 which were referred to the principal infectious diseases, against 519 and 484 in the two preceding weeks; of these, 197 resulted from measles, 144 from whooping-cough, 42 from scarlet fever, 43 from diphtheria, 39 from diarrhœa, 18 from "fever" (principally enteric), and not one from small-pox. The deaths from these diseases were equal to an annual rate of 1·6 per 1000 in the 76 towns and to 1·5 in London. No death from any of these infectious diseases was registered last week in Brighton, Northampton, Norwich, Plymouth, Nottingham, Derby, or in ten other large towns, while they caused the highest death-rates in Burton-upon-Trent, Burnley, Walthamstow, Liverpool, and Yarmouth. The highest death-rates from measles occurred in Burnley, Walthamstow, Liverpool, and Yarmouth; and from whooping-cough in Coventry, Burton-upon-Trent, Merthyr Tydfil, and Bootle. Scarlet fever showed the greatest fatality in Leicester, diphtheria in Walthamstow, and diarrhœa in Wolverhampton. "Fever" caused five deaths in Birmingham. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals at the end of last week were but three and no new case had been admitted during the week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, May 5th, was 2337, showing a further increase upon the numbers in the two previous weeks; 357 new cases were admitted during the week under notice, against 270, 288, and 314 in the three preceding weeks. The deaths referred in London to pneumonia and other diseases of the respiratory organs, which had been 399 and 361 in the two previous weeks, further declined last week to 309, but exceeded by 65 the corrected average for the corresponding week in the four preceding years, 1902–05. The causes of 55, or less than 1 per cent., of the deaths registered during the week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Newcastle-upon-Tyne, Norwich, Nottingham, Bolton, and in 50 other large towns, whereas the proportion of uncertified deaths showed a considerable excess in Reading, Birmingham, Liverpool, Blackburn, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·6 and 18·4 per 1000 in the two preceding weeks, declined again to 18·0 in the week ending May 5th, but exceeded by 1·7 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·8 and 15·6 in Paisley and Aberdeen to 20·6 in Dundee and 21·4 in Greenock. The 618 deaths in these eight towns included 22 which were referred to measles, 21 to whooping-cough, 13 to diarrhœa, eight to diphtheria, three to scarlet fever, three to "fever" (probably enteric), and not one to small-pox. In all, 70 deaths resulted from these principal infectious diseases during the week, against 53 and 62 in the two preceding weeks. These 70 deaths were equal to an annual rate of 2·0 per 1000, which exceeded by 0·4 the mean rate during the week from the same diseases in the 76 large English towns. The 22 fatal cases of measles in the Scotch towns showed a further increase upon recent weekly numbers and included 12 in Glasgow, five in Edinburgh, three in Dundee, and two in Leith. The 21 deaths from whooping-cough showed a decline of three from the number in the previous week, including 10 in Glasgow, four in Edinburgh, three in Aberdeen, and two in Dundee. Diarrhœa caused five deaths in Dundee, four in Glasgow, and two in Edinburgh. Six fatal cases of diphtheria and two of "fever" were returned in Glasgow and two of the three deaths from scarlet fever occurred in Edinburgh. The deaths referred in the eight towns to diseases of the respiratory organs, including pneumonia, which had been 170, 140, and 135 in the three preceding weeks, rose again last week to 138, and exceeded by six the number referred to these diseases in the corresponding week of last year. The causes of 25, or rather more than 4 per cent., of the deaths

registered in the eight towns during the week were not certified, the proportion of uncertified deaths in the 76 English towns being rather less than 1 per cent.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·1 and 22·4 per 1000 in the two preceding weeks, rose again to 25·9 during the week ending May 5th. During the first five weeks of the current quarter the death-rate in the city averaged 24·2 per 1000, against 17·3 in London and 18·6 in Edinburgh. The 188 deaths of persons belonging to Dublin registered during the week under notice showed an increase of 25 upon the number returned in the previous week; they included only two which were referred to the principal infectious diseases, a fatal case each of whooping-cough and "fever." The two deaths from these principal infectious diseases were equal to an annual rate of 0·3 per 1000, the rate from these diseases in the same week being 1·5 in London and in 2·3 in Edinburgh. The 188 deaths in Dublin last week included 20 of infants under one year of age and 59 of persons aged upwards of 60 years; the deaths of infants showed a decline and those of elderly persons an increase upon the numbers returned in the previous week. Six inquest cases and three deaths from violence were registered; and 89, or 47 per cent., of the deaths were recorded in public institutions. The causes of five, or nearly 3 per cent., of the deaths were not certified either by a registered medical practitioner or by a coroner.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointment is notified:—Surgeon R. S. Osborne to the *Virid*, additional for disposal.

ARMY MEDICAL STAFF.

Major Herbert J. M. Buist, D.S.O., R.A.M.C. to be a Deputy Assistant-Director-General, vice Major T. McCulloch, R.A.M.C., whose tenure of that appointment has expired (dated May 1st, 1906).

1ST LIFE GUARDS.

Captain Alfred Crichton Lupton, from the Royal Army Medical Corps, to be Surgeon-Captain, vice B. Pares, promoted (dated May 5th, 1906).

BREVET.

Lieutenant-Colonel Francis Joseph Lambkin, R.A.M.C., to be Colonel, under the provisions of Articles 36 and 356 of the Royal Warrant of March 19th, 1906 (dated May 9th, 1906).

ROYAL ARMY MEDICAL CORPS.

Lieutenant Augustus S. Williams, from the Seconded List, to be Lieutenant (dated April 1st, 1906). Lieutenant-Colonel Octavius Todd to be Colonel, vice B. M. Blennerhassett, C.M.G., retired (dated April 4th, 1906).

Lieutenant W. C. Nimmo has assumed medical charge of women and children, Marlborough Lines, Aldershot.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Aberdeenshire: The undermentioned officer resigns his commission: Surgeon-Captain H. M. W. Gray (dated May 5th, 1906). 3rd Durham: Henry Goudie to be Surgeon-Lieutenant (dated May 5th, 1906). 3rd Lancashire: Thomas Marshall Scott (late Lieutenant) to be Surgeon-Lieutenant (dated May 5th, 1906). 1st Shropshire and Staffordshire: Surgeon-Lieutenant Colonel and Honorary Surgeon-Colonel E. Cureton resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated May 5th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Northern Command: Manchester Companies: Lieutenant G. Ashton to be Captain (dated May 5th, 1906).

On May 5th the London Companies of the Royal Army Medical Corps (Volunteers) paraded near the fire station in the Tooting Bec road and marched to Tooting Common where the wagons (four of which had come by road from headquarters) were unloaded, the men being divided into squads of two and four for the purpose of practising the erection of bell tents. Several of these tents were erected on a piece of ground previously measured out to represent a camp and a zest was given to the performance by the timing of each squad. At dusk the tents were struck and after having tea the corps marched back to Clapham-road. In the absence of the Colonel, Major J. Harper took command for the afternoon.

DEATHS IN THE SERVICES.

Colonel Daniel Frederick Bateman, I.M.S. (retired), on April 28th, at his residence, Woodcote, Ealing, aged 65 years. He entered the service as assistant surgeon in 1866; was promoted to surgeon in 1873; surgeon-major in 1878; surgeon-major, ranking as lieutenant-colonel, in 1886; brigade-surgeon in 1890; surgeon-colonel in 1893; and retired six years later. He served in the Burma Expedition, 1885-86 (medal with clasp).

ARMY RECRUITING.

There was a debate in the House of Commons on May 2nd on Major Seely's motion concerning the question of recruiting for the present establishment of the regular army. But it led to no definite conclusion nor is any likely to be reached until Mr. Haldane has made up his mind and Parliament has agreed upon what is to constitute our future army system and organisation. The wastage entailed by our present system and the relative merits of long and short service were touched upon in the course of the debate, although not strictly pertinent to it. Mr. Arnold-Forster declared that a large proportion of that wastage was composed of young men who should never have been enlisted and that this had been largely reduced of late by the raising of the physical standard in the case of recruits. It is admittedly the case that at the present time we are not getting the requisite number and quality of young men for the army and the question comes, How are they to be obtained? Among other things some means will have to be devised for fitting soldiers to earn their own livelihood after leaving the army, and this, it is thought, may be done. Mr. Haldane, on behalf of the Government and in reply to many of the points that had been raised, stated about all that could be said in existing circumstances, but there is evidently much on which he has still to make up his mind. The subject is a very big and difficult one and we are glad to notice that he is patiently studying it with the aid of the best military experience available. As regards the relative merits of long and short army service, and even apart from the question of a reserve—in the case of India, for example—much turns on medical considerations.

DEATH OF A WELL-KNOWN ARMY NURSE.

A correspondent writes: Memories of Spion Kop and other fierce struggles of the South African war will be recalled by the death, announced in a telegram received at the War Office, of Miss Lucie Todd, Q.A.I.M.N.S., acting matron of the Middelburg Hospital, Cape Colony. One of the first sisters to be sent out after President Kruger's declaration of war, Miss Todd arrived at the Mooi river base at the end of 1899, being attached to No. IV. General Hospital. Here she bore her full share of the heavy task of dealing with the wounded brought in from some of the bloodiest struggles of the campaign. Transferred to Elandsfontein and then to Pretoria she became at the end of the war acting matron successively of the hospitals at Mooi River, Pietermaritzburg, and Middelburg. Her health had begun to fail at Pietermaritzburg, but with the courage and devotion to duty which always characterised her she continued at work right up to the end of last year. Then she was forced to yield to the progress of a distressing illness, and she died at Middelburg on April 29th, in harness almost to the last. A highly skilled nurse, utterly unselfish in her dealings with others, Miss Todd was beloved by patients and fellow workers alike, and the army nursing service loses one who can ill be spared.

THE MEDICAL EXAMINATION OF PETTY OFFICERS AND OTHER RATINGS.

The *Army and Navy Gazette* states that instructions have been given that when medical examinations of men are being carried out due regard is to be paid to the desire to differentiate between petty officers and other ratings, and in view of the disciplinary question involved arrangements are to be made in order that petty officers may be treated with every consideration. When petty officers are attending with men the former are to be examined first and when required to strip each petty officer and man is to be examined separately.

THE HEALTH OF THE JAPANESE NAVY AND ARMY.

As will be seen from another column in THE LANCET Baron Takaki delivered the first two of a series of three lectures on the Preservation of Health among the *Personnel* of the Japanese Navy and Army at St. Thomas's Hospital on May 7th and 9th.

Colonel Kenneth Macleod, I.M.S. (retired), has been appointed honorary physician to the King.

Deputy-Inspector-General of Hospitals and Fleets John Tyndall, R.N. (retired), has been awarded a Greenwich Hospital pension of £50 a year, vacant by the death of Deputy-Inspector-General T. R. Warren.

The Torpoint (Cornwall) urban district council has received £5000 from the Admiralty towards the costs incurred by the council in promoting its Water Bill in Parliament.

Correspondence.

"Audi alteram partem."

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY?

To the Editors of THE LANCET.

SIRS,—The letter from Mr. Herbert J. Paterson in THE LANCET of April 28th calls for a response from me.

The first point with which Mr. Paterson deals refers to the frequency with which the posterior no-loop operation has been performed. I had said in my previous letter that this method was the one which was now usually performed. Mr. Paterson replied that "in London, at any rate, the no-loop method is not yet that most commonly adopted." I answered that that did not meet my point and that "the operation of gastro-jejunostomy, if one may judge from published reports, is not so frequently performed in London as elsewhere." I suggested that Mr. Paterson should look further afield. How does Mr. Paterson reply to this? He writes, "*Possibly* we are behind the times, although I think that published reports are not a trustworthy indication of the volume of work done," &c. Leaving aside the question as to what other sources than published reports are generally accessible and as to why cases are "buried in the oblivion of hospital notes" when hospital reports are published, I would point out that a remark of this kind is not necessary to the argument and it appears to attach to my words a meaning which they did not possess and which I do not desire that they should possess. Mr. Paterson goes on to say further that he communicated with surgeons "all over the country" and he gathered from his inquiries that the no-loop operation is not commonly employed. Well, I must repeat my request for Mr. Paterson to look still further afield and to bring his inquiry up to date. Let him include the continent and America and I think he will find that I am right. I hope my search has been as careful as Mr. Paterson's; it has, I gather, been more extensive and more recent and my information goes to show that the posterior no-loop operation is now performed far more frequently than any other.

As regards Dr. Mumford's case, Mr. Paterson, as I pointed out, omitted to mention the one important fact—the congenital anomaly of the duodenum. The duodenum ended on the right side of the spinal column instead of the left. Owing to this abnormal fixation the stomach in its lateral contraction caused the anastomosis to be torn. Mr. Paterson says this abnormality "does not affect the conclusion to be drawn from the record." How can he possibly maintain that? But for the anomaly the disaster would never have occurred, and there would consequently have been no record from which to draw any conclusion. Mr. Paterson quotes Dr Mumford and then adds, "In other words, the no-loop operation is mechanically incorrect." Dr. Mumford's words cannot be made to bear this construction; moreover, Mr. Paterson is surely not entitled to argue, because of the failure of the no-loop method in one case where a gross congenital deformity existed, that the mechanics of the operation are incorrect when the anatomical conditions are normal. The mechanics of the operation in Dr. Mumford's case were wrong because, and solely because, of the duodenal deformity. There is not one scrap of evidence to show that under normal conditions the posterior no loop operation is ever mechanically incorrect; on the contrary, all the evidence that exists shows that it alone among all methods is the one which is free from mechanical complications and which, being completed, leaves the viscera in almost exactly their normal relations. (Mr. Paterson will, I know, be interested to hear that on Monday last I operated, with Dr. J. R. Lambert, upon a case precisely similar to Dr. Mumford's. I overcame the difficulty, not in the way I mentioned in my former letter, but by first suturing the upper part of the jejunum into the position the third and fourth parts of the duodenum normally occupy, and then performing the posterior "no-loop" operation. The patient is, so far, as well as possible.)

With regard next to internal strangulation. I have had three cases of hernia through the opening in the mesocolon into the lesser sac. The first patient died from the hernia on the tenth day. The other two patients developed the hernia almost certainly within a few days or weeks of the operation, not, as Mr. Paterson said of one of them, after an interval of two years. In none of these cases was the mesocolon sutured to the jejunum. (Though I began my method of suture in August, 1903, I did not adopt it in every case, wishing, of course, to give it a trial first.) Since so suturing I have had no case of hernia, although the number of operations is much larger, and on all the occasions on which I have subsequently had the opportunity of seeing the anastomosis the aperture in the mesocolon has been securely closed. Mr. Paterson says he requires "further evidence that *in every case* the opening remains permanently closed." A modest demand surely? How we are to obtain this evidence without re-opening the abdomen of every patient who has been so operated upon I cannot conceive. The evidence I offer is that *in every case examined* the opening has remained permanently closed and that no case has had symptoms suggesting the occurrence of hernia, symptoms which, in the cases treated without mesocolic suture, developed very early after the operation. That is to say, that all the evidence which can possibly be available supports my contention. So far, then, as internal strangulation is concerned, it occurs after the anterior operation as a result of compression of the colon or from the passage of bowel over the proximal limb of the jejunum. It occurs after the posterior operation with a loop, either in the manner just mentioned or as a consequence of hernia into the lesser sac. After the posterior no-loop operation with the suture of the mesocolon to the jejunum it has never occurred. There is no jejunal limb over which intestine can pass and the suture closes the entrance to the lesser sac. The evidence here, then, is all in favour of the no-loop posterior operation.

So far as concerns jejunal ulcer, I do not disregard Mr. Paterson's contention that it is a more serious matter if it follows the posterior method than it is after the anterior method. That I should not dispute. But what I submit comes from a study of the cases recorded is that the condition is much less likely to occur, and, as a fact, has occurred less frequently, after the posterior method; though perhaps more serious it is undoubtedly much less frequent. Mr. Paterson's contention that the cases in which entero-anastomosis has been performed should be omitted from consideration is, I think, perfectly just. But even then there are almost three times as many cases after the anterior operation as there are after the posterior. And this I consider is a greater disproportion than should exist even if we limit the period of inquiry as Mr. Paterson does. There is a further point which escapes Mr. Paterson. In the earlier years of stomach surgery the anterior operation was performed more frequently than the posterior, but in the great majority of the early cases gastro-enterostomy was performed for cancer, and jejunal ulcer has never occurred, so far as I can discover, after malignant disease. If we consider then only the cases of simple ulcer and its complications (which alone furnish the examples of jejunal ulcer) it is not improbable that posterior has been performed even oftener than anterior gastro-enterostomy, for not a few of those surgeons who have practised both operations for years have reserved the anterior method almost exclusively for cases of carcinoma. When these considerations are remembered the so-frequent incidence of jejunal ulcer after the anterior method is very striking.

But there are, I think, other factors concerned not with the method of operation but with the conditions for which the operation is performed that are of more importance in the causation of jejunal ulcer than the position of the

intestinal opening. The evidence shows, however, as I said previously, that so far as the details of the operation are concerned it is the low opening in the jejunum which disposes to ulcer; and I submit that this is so, even when the restrictions as to time, which Mr. Paterson desires, are made.

As regards regurgitant vomiting, Mr. Paterson and I agree that there is obstruction at the anastomosis. He places it at the efferent opening, saying, "I have witnessed a considerable number of necropsies on patients who have died from regurgitant vomiting and in every instance the waterlogging was clearly secondary to definite mechanical obstruction at the efferent opening." That may be, as Mr. Paterson claims, an "observed fact," though I am unaware of the nature of the evidence which supports it. Facts, as we know, depend sometimes for their existence, and often for their interpretation, upon the point of view of the observer. I cannot lay claim to the same kind of experience that Mr. Paterson has, but I have operated upon a certain number of these cases and the chief demonstrable condition has been a thick, overfull, proximal loop. That also is an observed fact which has been corroborated by several surgeons. In these cases an entero-anastomosis or Roux's operation relieved the obstructive vomiting.

Mr. Paterson asks, "Is there a particle of evidence that a healthy piece of intestine can become waterlogged apart from mechanical obstruction?" and adds "the whole of the small intestine is a series of loops. Do these loops ever become waterlogged apart from the conditions mentioned?" These questions are hardly relevant. We are not concerned in this discussion with loops of intestine, which are free to move where they will, but with a particular loop fixed naturally at one extremity—that is, at the duodeno jejunal flexure, and fixed unnaturally and in an abnormal position at the other—that is, at the anastomosis. I confess I see no resemblance between a loop both of whose ends are free and a loop both of whose ends are attached. Any arguments that might hold good relative to the one would be valueless in the case of the other. Mr. Paterson is straining a supposed analogy too far. If, however, he desires an argument by analogy, though most argument by analogy is necessarily imperfect, I would suggest for his consideration the conditions which exist when a loop of intestine, otherwise healthy, is fixed by an adhesion or by a diverticulum. Kinking may then result, and it is probable that distension may be active in bringing the obstruction about. Mr. Paterson attributes to me the belief in waterlogging as the "primary factor" and the "primary condition." I do not so consider it and I did not use these words. The primary factor, of course, must be the fixation of the jejunum to the stomach.

Not only is the gut fixed to the stomach, it is also materially weakened by the complete division of its circular muscular fibres. Following upon this is the occurrence of a kink or "buckle," due, as I consider, to the traction weight upon a part so weakened of a jejunal loop unable properly to empty itself. That the obstruction (which, as I said in my first letter, is "the real cause" of regurgitant vomiting) may affect the afferent as well as the efferent opening is shown by the fact that suspension of the proximal loop by anchor sutures lessens the probability of the occurrence of this complication. That the obstruction is due to the loop is shown by the fact that in the absence of a loop it does not occur though the method of making the anastomosis remains the same. If the loop plays no part in the causation of regurgitant vomiting and if the obstruction is always at the efferent opening, how comes it that the abolition of the loop in secondary operations, by its division and the performance of Roux's operation, relieves the vomiting though the anastomosis itself remains untouched? And how is it that a loop becomes waterlogged which is free to empty itself through an unobstructed afferent opening and that when vent is given to a waterlogged loop by entero-anastomosis the obstructive vomiting in almost every case is at once relieved though no change is made at either afferent or efferent opening?

Mr. Paterson, in answer to my query as to the existence of a surgeon who can bring forward any large series of cases of the anterior operation which will compare in results either immediate or remote with those obtained by the posterior method, quotes Dr. W. J. Mayo. He could not have chosen a better authority for my purpose, for, as Mr. Paterson says, Dr. Mayo with his enormous experience of both methods prefers the posterior. The sentence in Dr. Mayo's article which Mr. Paterson italicises as to the percentage of secondary operations being greater after the posterior operation than after the anterior suits my argument very well. The secondary operations were due, almost exclusively, to the making of a loop in the posterior operation, a method Dr. Mayo has now abandoned. Dr. Mayo's position is, indeed, very much the same as my own. I have used the anterior operation, I have had good results from it, I still use it, when I must, I have used the posterior operation with the loop, and I have had to perform secondary operations, but for the many reasons I have given I now perform, and very decidedly prefer, the posterior no-loop method. Mr. Paterson again expresses his satisfaction with the anterior method. I cannot, of course, cavil at that; on the contrary, indeed, I admire Mr. Paterson's zeal and persistence and his touching faith all the more when I remember that in the little he told us of his own experience he had to chronicle in his lectures the death of two of his patients from regurgitant vomiting. But he has not, as I said before, told us what, if any, his experience of the posterior method is. If he will give that method a trial he will, I anticipate, come to the conclusion, as so many of us have done, that though the anterior method is good the posterior is rather better, and the posterior no-loop is best of all.

Mr. Paterson writes: "As yet I have not found any conclusive evidence to show that the results, either immediate or remote, are better after the posterior than after the anterior operation. If such evidence be forthcoming Mr. Moynihan need have no fear but that I shall act in accordance with it."

Mr. Paterson's needs in the matter of evidence are difficult to estimate. As I have shown, in one matter he bases a deliberate statement of opinion upon the evidence afforded by one case when the circumstances were abnormal and unprecedented; in another he does not accept the evidence afforded by every available case, as he wishes for an impossible verification of that evidence "in every case." Nevertheless, I will endeavour to indicate where the evidence upon this subject may be found. What, to begin with, is the evidence that Mr. Paterson has already studied? He has told us in his lectures that he has "collected 247 cases of operation from British surgical literature of the last 20 years," and has obtained the after-history of 116 of these cases. Of these 116 cases there are 32 of my own, all but one being examples of posterior gastro-enterostomy. Of the remaining 84 cases it is not stated what was the proportion of anterior and posterior operations. Upon this evidence and upon his own experience, which I suspect is confined to the anterior operation only, Mr. Paterson has formed his judgment. Well, I can offer Mr. Paterson out of my own experience—indeed, I have already sent to him—reports of a far larger number of cases than this. So far as immediate results are concerned my mortality, excluding the acute cases of perforation and hæmorrhage, is less than 1 per cent., and I have now had 125 cases in succession without a death. So far as the remote results are concerned, Mr. Paterson has the material upon which to form his own opinion. He very properly, in estimating the remote results, says of his own investigations, "only cases which were operated upon more than two years ago are included." In the report I have sent to Mr. Paterson he will find that up to the end of April, 1904, there are 124 cases of mine whose history was brought up to date. I shall be glad for Mr. Paterson to make direct inquiry about them or about any of the later cases. Further, I would venture to suggest to Mr. Paterson to include in his search for evidence—evidence which already exists—what the surgeons whose names I gave him in my last letter and the several surgeons who spoke at the recent meeting of the International Society of Surgery have to say. The result of his research will be, I venture to predict, that he will find that, with extremely few exceptions, those surgeons who are doing, and have done, the largest work in this field have come to the conclusion, after trying all methods—anterior, posterior, with or without a loop, and Roux's operation—that the evidence is in favour of the posterior method, and he will further find that it is the no-loop operation that is the almost universal choice. If Mr. Paterson will take the opinion or watch the practice of these surgeons, and, above all, if he will give to the posterior no-loop operation a trial equal to that he has given the anterior method, he will then be in a better position than he now is to express an opinion upon the relative merits of the two methods. I shall be interested

to hear what conclusion he then forms. Mr. Paterson and many others who write upon the subject speak of the anterior operation as being much "simpler" than the posterior and this simplicity is held to be an advantage. I can assure Mr. Paterson that the posterior operation can be made every whit as simple as the anterior. If Mr. Paterson will accept the invitation I formerly gave him, and now cordially repeat, to "come and see," I shall not be without the hope of convincing him that the posterior no-loop operation can be made as easy as it is possible for a gastro-enterostomy operation to be, and that his statement that "the anterior is admittedly the simpler and less complicated procedure" can be successfully refuted.

I hope it will not be thought that, though my views upon the matters we have discussed are diametrically opposed to those held by Mr. Paterson, I wish to be chary in my estimate of the great value of his lectures. They are, I think, of quite unusual excellence.

I am, Sirs, yours faithfully,

Leeds, April 29th, 1906. B. G. A. MOYNIHAN.

To the Editors of THE LANCET.

SIRS,—In the course of the controversy in the correspondence columns of THE LANCET I have come by degrees to the conclusion that a piece of epoch-marking work in this department of surgery is in danger of losing its identity. And to-day I have read a statement made by Dr. W. J. Mayo in a communication to the *Annals of Surgery*, November, 1905, which I quote: "In the summer of 1903 Mr. Moynihan demonstrated to us the method he was using with the clamps and which goes by the name of the Moynihan operation," &c.

On Oct. 19th, 1900, my colleague, Mr. H. Littlewood, made a communication to the Leeds and West Riding Medico-Chirurgical Society upon a method of performing intestinal suture which he had been led to devise and carry out in consequence of the spontaneous closure of the gastro-enterostomy opening in two cases not in his own practice. I refer your readers to THE LANCET of June 29th, 1901, p. 1817, in which Mr. Littlewood describes the operation he had invented, which is essentially—indeed, with many of us identically—the same operation that is performed to-day, that is, by the aid of rubber-sheathed Doyen's forceps and with the excision of an ellipse of mucous membrane from each viscus.

There are two variant details the value of which is variously estimated, and it may be that Mr. Moynihan attaches so much importance to them and has practised them successfully for so long that he has come to regard them as the core and origin of the whole procedure. I refer to (1) the first line of suture, and (2) the question of "loop or no loop." Mr. Littlewood incised the serous and muscular coats and stripped them up a little in the submucous layer before he sutured them. Mr. Moynihan places his first line of suture through the outer coats before incising them. This is obviously a quite minor point, and some surgeons use either method indifferently. As a matter of fact, Mr. Littlewood now completes his incisions before he puts in any sutures at all, and he claims as the resulting advantage that there is no risk of soiling any suture already *in situ*.

Mr. Moynihan attaches great importance to the establishment of the jejunal opening as high as possible. It may even be that he has come to regard this as the essential feature of the operation, but if so I would point out that this is not what Dr. Mayo refers to as the Moynihan operation; and that the method of intestinal anastomosis by means of Doyen's clamps and the excision of ovals of the mucosa, if it is to be known by the name of its author, should be called the Littlewood operation. The omission to put this matter of authorship and precedence in a clear light is probably, as it may so easily be, a mere inadvertence on Mr. Moynihan's part, and Mr. Littlewood's reticence has led me to recall the sequence of events as we who witnessed these developments so well remember it. In Robson's and Moynihan's book, published ten months *after* Mr. Littlewood's original paper, no mention is made of clamps.

My reason for asking leave to publish these remarks in your columns is to afford Mr. Moynihan the opportunity, of which I am sure he will be only too willing to avail himself, of publicly stating how far Dr. Mayo and those who accept his statement are in error in withholding from Mr. Littlewood the credit of the pioneer work in this important advance in intestinal surgery. Whether the operation is anterior or posterior; whether the outer coats should be incised before suture or sutured before incision; whether a jejunal loop is undesirable or not—these points, even the last of them, are, so far as concerns the principle, the method, the technique, of the operation, of lesser importance; the essential features are: (1) the use of rubber-sheathed Doyen's clamps, with the fourfold object of steadying the parts in apposition during suture, preventing puckering and contraction from too tight stitching, preventing the escape of intestinal contents, and controlling hæmorrhage; and (2) the excision of elliptical portions of mucous membrane from each organ, so as to produce and maintain a free oval opening and to prevent the healing of the cut edges across the gap.

By far the worse of my own two cases of circulus vitiosus was after a posterior operation in which I took special pains to make the anastomosis as high as possible, short of producing actual tension at the time. The absence of any loop made the later treatment of this case a matter of the greatest possible difficulty and anxiety. In my other case, an anterior operation, the condition was easily converted into a Roux's operation, but, although not a very early convert, I have for some time been a convinced believer in the advantages of the posterior operation in all cases—a very large majority—where it is practicable. It would be very interesting if Dr. Mayo would formally restate what he regards as the important, the essential, points of the operation.

I am, Sirs, yours faithfully,

Leeds, May 2nd, 1906. EDWARD WARD.

CASEIN AND CASEINOGEN.

To the Editors of THE LANCET.

SIRS,—My attention has been called to a letter from Mr. H. Droop Richmond in THE LANCET of April 28th, in which he repeats the protest contained in his book against the use of the words caseinogen and casein in the sense in which they are employed in my writings on the subject. Proteid nomenclature in general is in such a confused condition just now that a joint committee of the Chemical and Physiological Societies has been appointed to attempt to reduce the chaos to order. Among the recommendations of this committee I find the following: "They strongly urge the continued use of the words caseinogen and casein in the sense now employed in the majority of English text-books." It would be most desirable for analytical chemists to fall into line also. The words are most helpful to teachers and students and have the recommendation of being rational.

The word casein is derived from the Latin word *caseus*, which means cheese. Cheese is the result of the action of rennet and calcium salts on the principal proteid of milk, and so it is right to apply the term casein to the curdled product and not to the original proteid upon which the rennet acts. The original proteid begets the casein; it is the mother substance of the cheese and so is rightly named caseinogen. The termination *gen* is derived from the Latin verb *genero* (I beget or produce). Caseinogen is therefore not a hybrid as Mr. Richmond says. Does Mr. Richmond also propose that we should drop the word fibrinogen and call it fibrin? Such a proposal would be quite on all fours with his suggestion that we should resort to the antique terminology he has not yet abandoned and call caseinogen casein. His statement that Dr. Gustav Mann has confused the two words is not an argument in his favour. The so-called confusion is due to an obvious press error which will be corrected in future editions of Dr. Mann's book.

I may add in conclusion that the word caseinogenate which Mr. Richmond fears may be introduced is already largely employed in physiological literature and bids fair to become as firmly rooted as caseinogen. Surely a chemist is the last person to object to words on account of their length.

I am, Sirs, yours faithfully,

King's College, London, May 4th, 1906. W. D. HALLIBURTON.

THE TRANSMISSION OF LEPROSY.

To the Editors of THE LANCET.

SIRS,—You will be glad to learn that Dr. W. J. Goodhue, medical superintendent of the Molokai Leper Settlement, has after several years' work there been able to demonstrate the bacillus leprae (Hansen) in the mosquito (Culex pungens) and in the bed bug (Cimex lectularia). I will quote from my brother's official report to the Hawaiian Board of Health:—

..... We have since been sectioning mosquitoes taken from various leper houses, but until last June [letter dated Feb. 10th, 1906] without any apparent success. At that time it appeared that we had isolated

bacilli in these series of experiments, but owing to the technique employed it was impossible to positively confirm this. ..... This method of research was then abandoned. .. ... Mosquitoes were caught at random in leper houses, being captured with a net or sterile test-tube, and the same subjected to a vapour of ether when the mosquito became unconscious and was easily caught up with sterile forceps and placed under the dissecting microscope. ..... After repeated failures and the constant re-examination of fresh specimens success has come as far as demonstrating the bacillus leprae in the female mosquito (Culex pungens). ..... Feb. 20th. Since writing you last I have discovered the bacillus leprae in the bed bug. I believe that the cimex is more of a factor in the spread of leprosy *among the natives* than the gnat, for the following reasons, viz., the bed bug's invasion is noiseless and insidious, made during deep sleep of the victim, and secondly, the beds and bedding used in a leper family, whether the leper is dead or segregated, are reoccupied by clean persons without adequate disinfection and cleaning.

The bacilli have been found in numbers in the ovaries and Malpighian tubules of the mosquito. Full reports of the work with microphotographs and slides, &c., will be given publicity in May.—I am, Sirs, yours faithfully,

E. S. GOODHUE
Government Physician.

Laaloa Holualoa, Hawaii, T.H., April 9th, 1906.

THE TREATMENT OF TEMPORARY FORMS OF MENTAL DISORDER.

To the Editors of THE LANCET.

SIRS,—I have read with very great pleasure your remarks in THE LANCET of April 28th, p. 1190, on the treatment of curable cases of insanity. As one who has repeatedly advocated the treatment of temporary cases of mental disorder *outside* a lunatic asylum it is gratifying to find that you are in sympathy with this solution of a very difficult problem. In THE LANCET of June 14th, 1902, p. 1681, I published a paper on the Relation of Mental Symptoms to Bodily Disease, and there I strongly advocated the provision in all large centres of the community of observation hospitals into which temporary forms of acute mental disease, such as acute alcoholic insanity, puerperal mania, acute toxic delirium, and acute transient forms of mania or melancholia, might be admitted and treated by skilled physicians for a period of six weeks. If at the end of that time the patient showed no disposition to recover then he should be certified for removal to a lunatic asylum. Whilst not in any way reflecting on the equipment, control, and scientific treatment of the present lunatic asylums there can be no doubt that a very large number of cases of mental disorder are certified as lunatics and sent to asylums when in reality they ought to be treated in the most modern and scientific way in a mental hospital. This might either be attached to the present general hospitals where they would have the advantage of a trained staff of physicians and students, or a mental hospital might be provided in large centres so as to filter out the quickly recoverable cases from the ordinary lunatics. My object in advocating this method is to obviate the necessity under the present Lunacy Act of certifying as lunatics a large number of cases of temporary mental disorder which are always occurring in large towns and cities. The stigma of lunacy ought not to be attached to these people, more especially to those suffering from puerperal insanity, but at the present time there is no place in which these people can be treated excepting the workhouse or the workhouse infirmary unless they are certified as insane and treated in the lunatic asylums.

I am, Sirs, yours faithfully,

Liverpool, May 2nd, 1906. NATHAN RAW.

TO MEDICAL OFFICERS OF HEALTH: A SUGGESTION.

To the Editors of THE LANCET.

SIRS,—For many years I have been greatly concerned in my midwifery practice with the heterogeneous class of nurses that I, in common with most medical men, come across, from the comfort of the well-trained to the continual anxiety caused by the mighty host of the ignorant and the unclean. A not uncommon state of things on entering a lying-in room is to meet the nurse with dirty hands and dirtier nails, perhaps after scrubbing the floor, and placing some foul garment to the vulva of the patient who is lying on, and surrounded by, such soft goods as old curtains, carpets, and, in fact, almost every kind of filthy stuff short of the door-mat. I have for many years endeavoured to teach these women habits of strict cleanliness. I never allow them to wash the genitals and when a napkin has to be changed I insist on their going through a process of first washing thoroughly their hands and nails, then soaking them in bichloride, and, finally, wringing a cloth out of a warm solution of bichloride before placing it next the patient, a dry one, baked, straight from the oven, being placed outside. The constant worry and anxiety in thus dealing with and teaching these women is intolerable and it struck me recently what boundless good—and at a very small cost—could be accomplished if the medical officers of health were to induce their parochial councils to get someone to give free, simple lectures on the essentials of monthly nursing to these folk, say once a week or even once a month, of an hour or two, and let certificates be given to the proficient.

Apart from the danger of septic trouble to the mother, the life of the infant is jeopardised by improper feeding and his lungs are impregnated at the very commencement of his life by foul air, the bedclothes almost invariably covering his head "that he may not catch cold."

If these women, by the method I suggest—simple, inexpensive, and feasible—are raised to a higher level, and if we medical men, one and all, adopt, as regards our own hands and nails and instruments and the person of our patient, prophylaxis as the most exacting can wish for, puerperal fever, as far as the profession is concerned, will become a rare disease. I am, Sirs, yours faithfully,

Endymion-road, N., May 5th, 1906. S. CONSTABLE.

SMALL-POX IN THE "THREE TOWNS."

To the Editors of THE LANCET.

SIRS,—Those who have read the annotation in THE LANCET of May 5th concerning the outbreak of small-pox in the Three Towns (Plymouth, Stonehouse, and Devonport) are liable to entertain a misapprehension as to the total number of cases. The 214 cases mentioned have all occurred in Plymouth but there have also been 23 in Devonport and 17 in Stonehouse. Although the Three Towns are practically contiguous they are under separate municipal government. With regard to vaccination in Devonport many are quite unprotected and revaccination is very little sought after. Our first notification was received on Sept. 30th, 1905, and we have had intervals as long as three and 11 weeks between the cases. I attribute the comparative immunity of Devonport to the fact that all contacts who can be prevailed upon are not only vaccinated but isolated as far as it is in our power till the incubation period is over. With four exceptions none of the cases which have occurred in Devonport have been traced to a pre-existing case, the rest having originated from contact with the disease outside the borough. So far there has not been a fatal case in Devonport although some of them have certainly been of a rather severe type.

I am, Sirs, yours faithfully,

O. HALL,
Devonport, May 5th, 1906. Medical Officer of Health.

BLINDNESS AND THE KINEMATOGRAPH.

To the Editors of THE LANCET.

SIRS,—The transmission of light through the eye, "the window of the soul," may revolutionise the modes of producing anæsthesia, since very recently Professor Redard claims that he can produce a condition of general anæsthesia sufficiently deep for the painless performance of any operation of short duration by causing the patient to gaze fixedly on an electric light of 16 candle power inclosed in a blue glass globe, the patient's head and the lamp being covered with a blue cloth so as to exclude all natural light. He holds that each of the primary colours has a definite and characteristic effect on the higher nerve centres, red light having an exciting, yellow a depressing, and blue a calming influence. A case which recently came under my notice demonstrates the effect which an intense white light, such as is necessary for a kinematograph exhibition, may have on the sensitive retina.

A young lady, aged 21 years, consulted me with regard to what she called "a sort of blindness." The history was that up to the time she had witnessed a kinematograph display of about 15 or 20 minutes' duration she had "good vision and strong eyes," but that when leaving the hall she experienced a difficulty in seeing objects and felt as if she were entering a darkened room. This continued for two or three hours and then, as adaptation of the retina gradually took place, objects became more distinct. She had considerable headache, a sensation of dazzling, and spasmodic contraction of the eyelids. These symptoms remained for about

24 hours. On the following day there was slight eye pain, with considerable reduction of the visual acuity. The pupils were of medium size and the reaction was normal. I advised her to remain in a darkened room, to have the eyes gently massaged, and to take a hot bath. I gave internally bromide of ammonium. She wore tinted glasses for some days and is now quite recovered.

The condition produced by exposure to excessive light is sometimes spoken of as blindness of the retina, anæsthesia of the retina, and neurasthenic asthenopia. "Retinal electrocution" is the term Darier uses when writing of the cerebral and retinal shocks produced by the passage of an electric current through the upper part of the body and the head. This suggests to me the term "retinal-cinematocution" for the condition produced by the intense flashes of white light. Those who have witnessed these living-picture displays must have experienced that peculiar "tiredness" of the eyes caused by exhaustion of the retina, and how gratifying it was to close the eyelids and thus relieve the strain. Until some improvement takes place in the mode of exhibiting these pictures and in rendering less intense the light the public should be warned of the danger and advised to wear tinted glasses when looking at them, and each display should not exceed one minute.

I am, Sirs, yours faithfully,

Dublin, May 5th, 1906. EDWARD MAGENNIS, M.D. R.U.I.

PASTEURISED MILK AND INFANT FEEDING.

To the Editors of THE LANCET.

SIRS,—In calling attention to a prevalent and growing evil the letter of Dr. G. A. Sutherland in THE LANCET of May 5th, p. 1280, is a highly important and valuable one. As far as the evidence of my cases quoted by him is concerned, he might have materially strengthened his position by mentioning the chief feature that was the main point of interest in each. The "extraordinary course" referred to in my paper was not the mere delay in the resolution of a subperiosteal clot but the formation of new bone in the detached periosteum in each of three consecutive cases of scurvy inadvertently fed on pasteurised milk. In one case where the change of milk instituted by the dairy company was not discovered and the infant died the newly formed periosteal bone was of remarkable extent, being thicker in places than the femur it surrounded. In the succeeding two, whilst on pasteurised milk, a thin layer of bone formed in the periosteum detached from the femur—a condition that was verified by skiagrams taken by Dr. G. H. Graham. On a change being made from pasteurised to fresh milk the new bone formation ceased in each and in the course of time that already formed was slowly absorbed. These three cases would seem apt illustrations of the dangers of pasteurised milk pointed out by Dr. Sutherland in his timely letter.

I am, Sirs, yours faithfully,

London, May 7th, 1906. J. A. COUTTS.

PRIMARY CARIES OF THE MASTOID PROCESS AS A CAUSE OF MASTOID ABSCESS IN YOUNG CHILDREN.

To the Editors of THE LANCET.

SIRS,—I should like to supplement Mr. L. P. Gamgee's cases of caries of the mastoid (recorded in THE LANCET of May 5th, p. 1237) with two cases which have been recently under my care. My cases have many points in common with his, but not all. The first was that of a child, 15 months old, with a swelling behind the ear of six weeks' duration. The child never had "running ear" or any of the symptoms of pain usually associated with mastoid abscess. There was a large fluctuating swelling behind the right ear pushing it forwards. I incised this down to the bone, and after mopping away blood and pus found a sinus leading into the antrum. This I enlarged sufficiently to allow the antrum to be easily packed with gauze. I removed very little bone and only very gently used a small curette to scrape out the antrum. It was packed daily, and in five weeks the cavity was completely closed. I had an opportunity of examining the membrana tympani afterwards and found that it differed in no respect from the other side.

The second case was that of a boy, aged nine years. He began with a swelling behind the left ear, which continued to increase in size under assiduous poulticing. I saw him after six weeks of this treatment and found a large fluctuating abscess, extending over the mastoid and beneath the temporal fascia, pushing the ear markedly forwards. This boy never had earache or otorrhœa and during all the time he was under my care his temperature never ranged above 99° F. I incised as in the former case and found a sinus which from its high and anterior situation I thought opened into the attic, not into the antrum proper. This I enlarged and packed the cavity daily. At the end of seven weeks it was completely healed. The membrane at the present time is perfectly normal in appearance and the boy can hear a watch distinctly at 38 inches.

These two cases agree with Mr. Gamgee's in the following points: (1) absence of constitutional disturbance; (2) there never was otorrhœa; and (3) the swelling came on gradually with an absence of pain. They differ in the following: (1) the ear was pushed markedly forwards in both; and (2) there was hardly any destruction of bone. There was no caries except at the margin of the sinus itself.

I am, Sirs, yours faithfully,

Leeds, May 7th, 1906. J. STEWART.

APPENDICITIS AND PERFORATED DUODENAL ULCER.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 5th, p. 1262, in "Annotations," under the heading of "Appendicitis and Perforated Duodenal Ulcer," you say: "No case appears to have been recorded of the association of inflammation of the appendix with duodenal ulcer." May I venture to call your attention to the fact that in THE LANCET of Nov. 2nd, 1901, p. 1194, I published notes of a case of appendix abscess that I opened and that died from a perforated ulcer of the second part of the duodenum 11 days later. I also in the same note gave details of two other cases of perforated duodenal ulcer associated with a septic condition of the peritoneal cavity.

I am, Sirs, yours faithfully,

Leicester, May 7th, 1906. F. BOLTON CARTER.

THE EPIDEMIOLOGICAL SOCIETY.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you would kindly permit me to make a few corrections in the account published in THE LANCET of May 5th of a paper which I had the honour of reading before the Epidemiological Society on April 20th last on the subject of the meningococcus. In the first place, Elser of New York cultivated the meningococcus from the blood in 24 per cent. of the cases of cerebro-spinal fever which he examined, not in 7 per cent. as stated. "Colonies in broth" should read "colonies on nasgar," and "acetic" agar should read "ascitic" agar. Instead of saying that both the meningococcus and micrococcus catarrhalis were liable, as indeed were all micrococci, to occur as staphylococci and streptococci, I stated that they were all apt to occur as diplococci. Lastly, the disinfection experiments quoted were made against saliva, not against cultures of the meningococcus.

I fear that I myself am in great part to blame for these "terminological inexactitudes," because I failed to bring an abstract with me on the occasion in question.

I am, Sirs, yours faithfully,

Blackheath, May 8th, 1906. M. H. GORDON.

THE NOTIFICATION OF PULMONARY TUBERCULOSIS.—The Barnstaple (Devon) rural district council recently forwarded a resolution to the Local Government Board urging that pulmonary tuberculosis should be included amongst the list of notifiable diseases. At the meeting of the council held on May 4th a letter was read from the Local Government Board stating that pulmonary tuberculosis was not a disease to which compulsory notification could with advantage be applied, but as many authorities had made arrangements with local medical practitioners for the voluntary notification of this disease the Barnstaple rural district council could follow this course without the sanction of the Local Government Board and pay a reasonable fee for such notification.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Medical Guild.

THE Manchester Medical Guild pursues the objects for which it was founded with quiet persistence. One of these has been to watch the proceedings of those who in promoting the interests of their special philanthropic pets, the provident dispensaries, sometimes forget to do full justice to the medical profession, without the aid of which their schemes must collapse. One of these cases occurred some time ago but a satisfactory completion is only announced in the report for last year which has just been issued. A qualified medical man was charged before the General Medical Council with "accepting and continuing to hold the appointment of paid medical officer to the Rusholme and District Provident Dispensary, an association which systematically practised canvassing for the purpose of procuring patients." The General Medical Council held that the facts were proved and expressed its sense of their gravity but mercifully adjourned the consideration of the case to its next session so as to give the delinquent the opportunity of satisfying the Council as to his conduct in the interval. The matter has ended happily by the gentleman having ceased to act as medical officer to the Rusholme Dispensary. The Guild has thus been the agent of recovering to the fold one who had been tempted away and of saving him from a position that would have been unbearably invidious to any sensitive, right-minded person. One of the curious things about the promoters of these institutions is that they are honestly philanthropic in their intentions, but in their wish to help one section of the people they are careless or blind to the wrong they propose to practise on another section. This blindness is, one would suppose, not often found in minds packed full of legal subtleties, or is it, indeed, on the other hand, the result of entanglement in a mesh of fallacious sophistries? It was largely in consequence of the above case that on Dec. 1st, 1905, the General Medical Council issued a general warning against advertising or the employment of agents or canvassers to obtain patients. The working of the Midwives Act has received much attention by the council of the Guild and an important letter was elicited from the Local Government Board stating that under the Public Health Act of 1875 and the Poor-law Amendment Act of 1848 local authorities could, with the consent of the Board, pay fees to medical men in such cases. Acting on this letter the corporation of Manchester obtained permission from the Local Government Board, and for this purpose allowed in the city estimates for the year a sum of £500. The suggestions of the Guild council have been adopted almost in their entirety by the British Medical Association, especially upholding the principle that "attendance on midwives' cases should be open to every member of the profession." The city council decided on a maximum fee of 21*s*. Attention has also been directed to other matters interesting to the profession—e.g., the relations of general practitioners to operating surgeons, testimonials from medical men in favour of proprietary medicines, the proposals of the British Medical Association as to a public medical service, vaccination law amendment, &c. Nowadays every cause has its organ in the press and the *Guild Quarterly* sustains its part with an energy and talent not always found in more pretentious literary ventures.

Adulteration of Food.

Judging from the Lancashire county analyst's report for the quarter ending March 31st last, the chief victims of adulteration are children, as the principal consumers of milk, and those adults who indulge more or less in alcohol. It appears that 795 samples were analysed under the Sale of Food and Drugs Acts, 43 of which offended against the law. Of milk 235 samples were examined, 21 of which were below the required standard. 144 samples of spirits for consumption were analysed and came out better than the milk, only seven of them being faulty. In addition to these 40 samples of whisky were examined and found to consist mainly or entirely of patent-still spirit. Milk, which is so rapidly perishable and so easily contaminated, offers special temptation to the fraudulent, either by dilution or the addition of preservatives. Æsthetically the most revolting contamination is from the too often filthy hands of the milker, for it is a far cry to Izaak Walton's idyllic milkmaid from the unwashed udder and the occasional splash into the can of the ordure-laden tail. It is strange that while so much attention is being paid to these matters too many of the farmers have scarcely the most primitive instincts of cleanliness. Of course, there are exceptions and the sooner they become the rule the better. Then in most farms little heed is paid to protecting the milk from microbe-laden dust on its way from the cow to the consumer. Altogether, we are in a very backward condition as to the management of our milk-supply, and it is not to our credit. The wonder is not that disease is conveyed by milk but that so little harm, on the whole, is done. The last does not seem to be heard of the rival pot-still and the patent still.

Dainty Food!

We now and then get infamous foodstuff sent to Manchester but a good deal of it is intercepted before further mischief is done. At Macclesfield the other day the magistrates were told of the following suggestive case. A dealer bought a cow for 10*s*. 6*d*. and sold it at a handsome profit for 30*s*., when it was killed and no doubt skilfully dressed by the slink-butchers and the meat sent to Manchester as food for the people.

The Care of the Blind.

On Saturday last a conference was held in Manchester under the auspices of the Manchester and Salford Blind Aid Society, at the St. John-street branch of the Royal Eye Hospital, on matters relating to those blind persons who live outside institutions. When we think of the few blind people met with as we go through the streets it comes as a surprise that in 1901 the returns showed that there were 25,317 in England and Wales. Of these 5676 were employed in some profession or business, while 2560 were provided for industrially in workshops and institutions. Representatives from various societies and institutions throughout the country were present and it is encouraging to know that these unfortunate and often necessitous persons are not forgotten. The holding of local conferences from time to time was advocated not only as conducing to coöperation and so preventive of overlapping but as attracting the attention of the public to the work and its needs. The claims of workshop employment for the blind was strongly advocated for those who had completed their training and were qualified to do some kind of work. It secured constant work, a living wage, and proper oversight and care.

Manchester Jewish Hospital.

An appeal for help for the Manchester Jewish Hospital has been issued, the response to which ought not to be limited to one section of the community. Though, of course, there is much wealth among the Jews, it is accompanied in Manchester by much poverty. The benefits of the institution are open to all deserving applicants without distinction of creed and are fully appreciated by non-Jews. But there is a debt on buildings and equipments of £3500 to be cleared off and an annual deficit of about £550. This is a fair sample of such appeals. The institution is deserving and well managed, but each repetition of the well-known story marks the urgency of the question, What is to be the future of our hospitals?

Bequests.

Mr. Horatio Bright of Lydgate Hall, Sheffield, left large bequests to medical charities, £50,000 to the Buxton Bath Hospital, £10,000 to the Manchester Infirmary, £10,000 to the Leeds Infirmary, and £10,000 to Guy's Hospital. He left also £20,000 to the National Lifeboat Institution. "He directed his body to be taken to his mausoleum at Moscar Rest on a dray and there laid without any religious or other service."

May 8th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Post-Graduate Instruction.

A COURSE of lectures and demonstrations has been arranged in connexion with the Royal Infirmary, Newcastle-upon-Tyne, and will be carried out during the months of May, June, July, and September. The lectures will be delivered by the honorary staff of the Royal Infirmary on Wednesdays at 4 P.M. and 8 P.M. alternately, to suit the convenience of

country as well as town practitioners. The fee for the whole course of 15 lectures is £3 3s.

University of Durham Convocation.

On Saturday, April 28th, a convocation for the conferring of degrees was held in the great hall of the Durham University College of Medicine, Newcastle-upon-Tyne. As usual, the ancient pomp and glory of such a ceremony were kept up and the many-coloured gowns of the numerous professors and lecturers made a picturesque sight. Many guests had been invited for the occasion and the assemblage was a large one. There was a paucity of students but they did their best to cheer their comrades, though their hilarity seemed much less than in previous years. The Very Rev. Dean Kitchin, the warden of the University, presided. The degree of M.A. was conferred by vote of convocation upon Dr. James Limont, lecturer on medical jurisprudence in the Durham University College of Medicine. The degree of M.D. was conferred on six Bachelors, 19 gentlemen received the M.B. degree, and 18 the B.S., and the M.D. degree for practitioners of 15 years' standing was conferred on seven successful candidates. One gentleman received the B.Hy. and another the degree of B.Sc. The appointment of examiners in science and the confirmation of alterations in the University regulations dealing with the preliminary study for science degrees concluded the convocation. Afterwards most of those who took part in the proceedings were guests of the College of Medicine at a luncheon served in the council room.

Prevention of Consumption.

At the meeting of the county council of Northumberland on May 3rd the medical officer of health, Dr. J. W. Hembrough, made the following recommendations for reducing the amount of consumption in the county:—

1. Contributing to the funds of the sanatorium awaiting completion near Barrasford, which would enable a beginning to be made with isolation.
2. Arranging for notification (either voluntary or compulsory) of consumption.
3. Making indiscriminate expectoration a punishable offence.
4. The disinfection of rooms occupied by a consumptive patient or from which a consumptive person has been removed.
5. Facilitating the destruction of infective expectoration by providing, free of cost in necessitous cases, cheap flasks or paper handkerchiefs.
6. The appointment of lady health visitors or trained nurses who have gone through a course of instruction in hygiene.
7. Adopting and enforcing regulations under the Dairies, Cowsheds, and Milkshops Order and thus ensuring a milk-supply produced under more sanitary conditions.
8. More energetic action in the case of insanitary houses and their surroundings.

In connexion with these recommendations it is of interest to note that the Barrasford Sanatorium is rapidly approaching completion and is considered to be worthy to be classed with the best in the kingdom, but, unfortunately, it is necessary that some £5000 be forthcoming before the institution can be opened for the reception of patients. The committee, however, is making a great effort and it hopes that it may be able to receive patients this season.

Durham County Hospital: Convalescent Home.

This institution was opened at Harrogate on April 28th by the Right Hon. John Lloyd-Wharton. The home is situated in Cornwall-road, near Harlow Moor, within a few minutes' walk of the Kursal and its grounds. The building is a two-storeyed one with a basement and is constructed of Wakefield red bricks with white stone facings. Altogether there is accommodation for 22 patients, the matron, nurses, and staff. About £5500 of the required £6000 spent on the building have been subscribed, the funds having been liberally supported by the gifts of the Ecclesiastical Commissioners, Lord Durham, Mr. Lloyd-Wharton, and the colliery owners, while the miners themselves have honourably carried into effect the promise of subscriptions made some four years ago. The home is not in any way endowed and will require an income of from £600 to £700 but there should be little difficulty in raising this sum from so thickly populated a county as Durham, the mining population of which will, for the most part, reap the benefits of the home.

May 8th.

LITERARY INTELLIGENCE.—Mr. Werner Laurie will shortly publish for Dr. Ernest Walker a volume entitled "Modern Medicine for the Home."

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Pauperism and Vagrancy.

IN his opening address to the members of the Poor-law Conference which met at Malvern on May 1st, the President (Sir William Chance) drew attention to the great difference in the incidence of pauperism in the West Midland counties. In Warwickshire 19·5 per 1000 of the population were paupers, while in Herefordshire the proportion was 35·5 per 1000. Still more striking was the reference to individual unions. In the Clun union in Shropshire there were only 21·1 paupers per 1000 of the population but in the Dore union in Herefordshire there were 52·6 per 1000, although the two districts were similar in many respects. This great difference is no doubt due, as Sir William Chance stated, to laxity of administration, although some members of the Dore board of guardians have sought to justify their action by stating that the proportion of aged persons in the Dore district is higher than elsewhere. This is hardly correct, however, for at the last census there were in Dore out of every 1000 persons living at all ages 164 over 55 years of age, while in the Hereford union there were 171, in the Leominster union 175, and in the Weobley union 175 per 1000. These are all Herefordshire unions and in each the amount of pauperism is less than that which prevails in the Dore union. Sir William Chance, who was a member of the Departmental Committee on Vagrancy, said that the committee's plan of dealing with vagrants would get rid of a large number of casual wards and would bring the whole vagrant population under undivided control. The question of vagrancy had never been dealt with in a thoroughly scientific manner. The treatment of the vagrants had been left to the whims and wishes of local administrators and failure had resulted in the main from a want of uniformity. The Conference ultimately carried a motion endorsing the recommendations of the departmental committee.

The University of Wales.

A meeting was held on April 30th at the Royal College of Physicians of London to consider and to prepare the draft of a statute to establish a faculty of medicine for the University of Wales. Sir Isambard Owen (Senior Deputy Chancellor) presided and there were also present Sir Richard Douglas Powell, Dr. Donald MacAlister, Professor D. Hepburn, Professor J. B Haycraft, and Professor E. Jones.

Temperance Posters in Cardiff.

The health committee of the Cardiff corporation decided a few weeks ago to issue large placards pointing out the evil effects of drinking alcoholic liquors. When the recommendation of the committee came before the town council the town clerk, in reply to questions from some of the members, stated that there was no authority in the Public Health Acts or elsewhere for the expenditure of money for such a purpose. He was reminded that posters drawing attention to the importance of vaccination have from time to time been issued at the cost of the corporation, but he refused to be cross-examined, and in the end it was decided to take no action in the direction indicated pending the receipt of replies to communications which have been sent to some of those towns where no difficulties have been raised in connexion with the exhibition of the temperance posters.

Insanitary School Buildings.

The medical officers of health of two suburban districts in Glamorganshire refer in their annual reports to the need for improvement in the sanitary surroundings of some of the public elementary schools. Mr. T. J. Webster says that one of the "provided" schools in Vaynor and Penderyn, a district which adjoins Merthyr Tydvil, is very unsatisfactory, the walls and woodwork are dirty and badly need recolouring and painting, the lavatories are most unsuitable, and the flooring of them is in a very damp state from the overflow from the basins due to the waste-pipes being choked. In the Llandaff and Dinas Powis district which adjoins Cardiff Dr. R. Prichard describes the lighting of many of the elementary school buildings as unsatisfactory, and one school in particular he describes as being damp owing to the very easily remedied defect of dilapidated rainwater gutters. Other conditions described by Dr. Prichard are not at all creditable to the school managers.

Appointment of a Medical Officer of Health at Chipping Sodbury.

At a meeting of the Chipping Sodbury rural district council held on May 3rd a letter was read from the Local Government Board inclosing draft copy of a provisional order for union of districts under Section 286 of the Public Health Act, 1875, for the appointment of a medical officer of health and requesting any remarks from the council upon the subject. The order is to unite the following district councils by appointing a joint committee of 18 from them—namely, Awre, Cirencester, Newnham, Tetbury, and Westbury-on-Severn urban districts, and Chipping Sodbury, Cirencester, East Dean, Gloucester, Lydney, and Tetbury rural districts. The letter added that Chipping Sodbury having given notice of objection this procedure was necessary, and the Local Government Board further stated that the officer appointed must submit to the joint committee copies of every report which he makes in regard to any part of the district and any difficulties arising will be finally decided by the Board. After a long discussion, during which a motion was proposed "That the council offer no opposition to the provisional order" and was defeated, an amendment was carried by 11 votes to 4 that the "council protests against the action taken by the Local Government Board."

Aberystwyth Board of Guardians and its Medical Officer.

At a meeting of the Aberystwyth board of guardians held on April 30th it was decided to reappoint Mr. G. H. E. Bonsall as medical officer to the workhouse, provided that he agreed to the appointments held by him under the guardians being included in one appointment, and to increase his salary by £15 per annum.

May 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Edinburgh: Meeting of the General Council.

IN THE LANCET of May 5th, p. 1266, there was published an abstract of the business to be brought before the meeting of the council held on May 2nd, in so far as it dealt with matters of medical interest. It may be recalled that a new draft ordinance was submitted to the council proposing important changes in the medical curriculum. The draft ordinance had been in the hands of the very capable business committee of the council for some time, with the result that not only the draft ordinance but the amendments and additions proposed by this committee to be made to it were in the hands of the members of the council before the meeting. The report of the business committee was submitted by its convener Mr. Buchan and seconded by Sir James Russell. Professor D. J. Cunningham, Dean of the Faculty of Medicine, while supporting the report, took some exception to the clause providing that students might be prevented attending more advanced classes when they had not passed the earlier examinations; he did not, however, press this point, with the result that the report was unanimously adopted. When Mr. Buchan submitted the report he read a letter from Principal Sir William Turner in which he said: "The report of the business committee has been sent me and I have read it with much interest. Many important questions have been under consideration and I have been specially interested in the part referring to the medical ordinances. The import of the proposed changes has been stated with lucidity and I hope that the committee's recommendations will be adopted." After the part of the report dealing with the proposed changes in the medical curriculum had been thus unanimously passed, the portion which dealt with the method of legislation by ordinance was submitted by Mr. Buchan and seconded by Sir Andrew Mure, who dwelt upon the extraordinary fact that the universities of Scotland were tied hand-and-foot in the matter of legislation. This was also unanimously approved, the council deciding that it should be represented to the University Court that (*a*) the time has now come when the Government and Parliament should be asked to confer upon the Scottish Universities severally a large measure of autonomy; and (*b*) the business committee should take steps, either in conjunction with other academic bodies or otherwise, to forward the matter. Two other minor proposals were approved by the council: (1) That the hour of meeting for the future should be half-past three; and (2) that the notices of meetings and reports should be posted to members of the council in England, these hitherto being only sent to members resident in Scotland.

Small-pox in Glasgow.

In THE LANCET of April 28th, p. 1212, reference was made to a case of small-pox occurring in an alien emigrant while passing through Glasgow *en route* for America. Dr. A. K. Chalmers, medical officer of health of Glasgow, pointed out at that time the risk arising from the present method of housing alien emigrants and the force of this criticism has had an unfortunate illustration during the past fortnight. Since the removal of the first patient to Belvidere a frequenter of the hotel in which he was lodged has developed the disease and it is worthy of note that this patient's room was on the same floor as that occupied by the emigrant who first developed small-pox. As several inmates of the hotel had visited this second patient in his room before the symptoms had fully developed it was found necessary to isolate them, and on account of difficulty experienced in inducing them to comply with the suggestions made a warrant under the Public Health Act had to be obtained for the purpose. If there is any risk of small-pox being introduced and spread in this way by alien emigrants it is far from reassuring to note that of the 311 foreign emigrants housed in one week last month by the shipping companies prior to the departure of their vessels 63 were lodged in eight lodging-houses and one hotel in which non-emigrants also were accommodated.

May 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Rotunda Hospital, Dublin.

A "CHARTER" meeting of the board of guardians of the Rotunda Hospital was held on May 4th, Mr. O'Brien Furlong, C.B., presiding. Dr. R. D. Purefoy and Dr. James Little gave notice that at the next "charter" meeting of the hospital they would move:—

That Mr. F. T. Heuston, the consulting surgeon to the hospital, be elected to the vacancy on the board caused by the death of the late Sir William Findlater.

Notice was given by Dr. Purefoy and the Master that at the next meeting of the board they would move and second:—

That a consulting oculist to the hospital be appointed.

Surgeon-General C. Sibthorpe, I.M.S., C.B., F.R.C.P. Irel., L.R.C.S. Irel.

I regret to announce the death of Surgeon-General Sibthorpe which took place on May 4th at his residence, 36, Upper Leeson-street, Dublin. He served in the Burmese campaign of 1885–86 and received honourable mention with the medal and clasp. He also served as deputy surgeon-general in the Afghan war, for which he was mentioned in despatches and received the medal. The late surgeon-general was the author of an important work on "Indian Clinical Research" and of various essays and treatises on medical subjects. He was born in 1847 and was therefore in his fifty-ninth year.

Royal University of Ireland.

At the recent M.B. examination of the Royal University of Ireland a first-class exhibition (£40) was awarded Mr. Robert Jamison of Queen's College, Belfast, and a second-class exhibition of £25 to Mr. W. J. Leighton of Queen's College, Belfast, while another candidate, Mr. W. A. McKee, obtained first-class honours in medicine and second-class in surgery. All the honour distinctions of the M.B. went to students of Queen's College, Belfast. At the second examination in medicine Mr. James M. O'Connor, from the Catholic University School of Medicine, obtained first-class honours and a first-class exhibition of £25, while at the third examination in medicine Mr. W. D. O'Kelly, Catholic University School of Medicine, obtained a first-class exhibition of £30, and Mr. Marshall F. Huston of Queen's College, Belfast, was awarded a second-class exhibition of £20.—Some little excitement was caused among the rowdy section of the undergraduates of the Royal University by a recent article in the *Times* advocating their being punished and by Mr. Bryce's statement in the House of Commons on May 3rd that the Senate had the matter under consideration. There was a full meeting of the members of the

Senate on May 4th when the following motion was adopted unanimously:—

That, having regard to the official pronouncement made in the House of Commons on March 15th by the Chief Secretary that His Majesty's Government had been advised "that the Senate of the Royal University of Ireland had the power to maintain order, and to take all steps necessary to that end," the Senate hereby direct the standing committee to prepare a draft of such statutes and regulations as shall provide the necessary means to enforce academic discipline and to punish academic misconduct.

In reference to the disorder last October it was directed that the minutes of the Senate meetings, &c., relating thereto should be supplied to the Government.

The Health of Belfast.

The public press in Belfast is at present full of communications dealing specially with the problem of consumption in Belfast. It would appear that for 12 years past the average annual death-rate from pulmonary tuberculosis has been 3·3; in 1894 it was 3·8, and in 1895 it was 3·1, a death-rate almost twice as high as any corresponding city in England or Scotland. Further, from pulmonary tuberculosis alone over 1000 people die every year in Belfast, and if the other types of tuberculosis be included it is calculated that 1500 of the Belfast citizens die annually. On May 4th the announcement was made that the medical officer of health had resigned and on May 8th there was a great meeting of the citizens under the auspices of the Citizens' Association to consider the deplorable state of the public health in Belfast. Not for years has so much public opinion been aroused on any question in Belfast as there is at present as to the public health, and it is hoped that some good will accrue and that really practical measures will be adopted.

Insanity in Ireland.

The Royal Commission on the Care and Control of the Feeble-minded heard evidence in Dublin on May 5th, when the Irish Registrar-General, Mr. R. E. Matheson, LL.D., stated that in 1861 the proportion of lunatics and idiots to the population in Ireland was 1 in 411; 25 years later it was 1 in 281; and in another 20 years, in 1901, it was 1 in 178. There have been increases of insanity in England and Scotland but not to the same extent. In England and Wales the proportion of insane per 10,000 of population increased between 1871 and 1901 from 30·39 to 40·78; in Scotland the increase was from 33·97 to 45·37; while in Ireland the increase was from 30·49 to 56·18. Of the causes for this terrible state of affairs in Ireland Mr. Matheson mentioned three: First, the return from the United States of Irish men and women who have lost their health and reason while working there. In Ireland they were supporting not only their own lunatics but a considerable number drawn from the Irish population of America. He advises that severe penalties should be imposed on shipping companies who attempted to land persons of unsound mind without the Lord Lieutenant's licence. Secondly, heredity. No person who has been detained as a lunatic or an idiot should be allowed to marry without the special permission of the Lord Chancellor, obtainable only after a full consideration of the circumstances. Thirdly, drink. No doubt the emigration from the country of a large proportion of the young and healthy and a return to it of those whose reason has been affected while in America have a good deal to do with the increase of insanity in Ireland.

May 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Operative Decortication of the Lung.

AT a meeting of the Academy of Medicine held on April 10th M. Picqué gave details of the case of a man, 21 years of age, who in July, 1905, was stabbed with a knife in the right interscapular region on a level with the fourth intercostal space. When taken to a hospital the patient presented all the signs of extensive hæmothorax, accompanied by severe dyspnœa, pyrexia, &c. Thoracotomy was immediately performed and resulted in the escape of a litre of blood mixed with clots. As the patient's condition did not improve partial resections of ribs were performed several times in the course of the ensuing months but without benefit, until a final resection, more extensive than the others, showed that the right lung was completely immobilised by the visceral pleura which was considerably thickened. The greater portion of this pleura was then resected according to the method of Delorme, after which the lung immediately became released and formed a hernial protrusion between the edges of the pleural incision. From this date the patient rapidly improved and he may now be considered as quite recovered.

Medical Excursions.

The eighth medical excursion will take place from Sept. 1st to 12th and will be under the general direction of Professor Landouzy. The places to be visited are health resorts in Savoy and Dauphiné; they will include Hauteville (where there is a sanatorium), Évian, Thonon, Saint-Gervais, Chamonix, Annecy, Aix, Marlioz, Le Revard, Challes, Salins-Moutiers, Brides, Pralognan, Allevard, Bouquéron, La Motte, and Uriage. 12 grants in aid of the expenses (*douze bourses de voyage*) will be made on the occasion of the excursion in 1906. These grants are directed by their founders to be awarded as follows: (1) to an English, a Belgian, a Danish, and an Italian medical man; (2) to two medical members of the Concours Médical and of the General Association of French Medical Men; (3) to two resident medical officers (*internes*) of Paris hospitals; and (4) to a student of each of the medical faculties of Bordeaux, Lyons, Paris, and Reims. For further information application should be made to Dr. Carron de la Carrière, 2, Rue Lincoln, Paris, or to Dr. Jouaust, 19, Rue du Colisée, Paris.

A New Thermo-cautery.

At a meeting of the Surgical Society held on April 11th M. Routier showed for M. Granel a new thermo-cautery in which light mineral oil is burned. Its special feature is that the reservoir for the oil is very small, has inside it a sponge soaked with the oil, and is entirely contained within the handle of the cautery, an arrangement which is a great convenience in using the instrument. The reservoir cannot explode and holds sufficient oil for four hours' work. There is a special device for regulating the temperature of the cutting edge and the cautery will act even when introduced into cavities containing much fluid.

The Medical Service of the Navy.

A regulation has been recently made, according to which young men admitted either to the chief naval medical school or to the naval training school (*école d'administration de la marine*) or to administrative duties in connexion with the naval reserve (*inscription maritime*) shall, on entering the school or on being nominated to an appointment, bind themselves to remain on active service for at least six years from the date of receiving the rank either of medical officer or dispenser of the third class, or of assistant medical officer or assistant dispenser of the second class, or of clerk of the third class.

The Family of the late Professor Curie.

The Council of Ministers has decided that on the re-opening of Parliament the Minister of Public Instruction and Fine Arts shall submit to the Chamber of Deputies a Bill to provide a pension (*pension nationale*) for Madame Curie and her children.

The Strike of Printers.

In consequence of the printers being on strike several important medical journals have been unable to appear at all during the last two weeks and others have been considerably delayed. It is to be hoped that this unfortunate state of affairs will not continue much longer.

Pulmonary Gangrene after Attempted Suicide by Drowning.

At a meeting of the Société des Hôpitaux M. Bergé read a paper on the case of an insane woman, 31 years of age, who threw herself into the Seine at Paris last winter. Rescued in an unconscious state and removed to a hospital she suffered from two successive varieties of pulmonary lesion at several days' interval. At first there was at the base of the right lung an area of broncho-pneumonia and then at the base of the left lung there was an area of pulmonary gangrene with fœtor of the breath and of the expectoration. These two conditions, both of which terminated in recovery, were evidently caused by the bacteria of sepsis and of putrefaction contained in the Seine water which had made its way into the air passages. The coldness of the water and the mental depression which instigated the suicidal attempt would probably assist in the development of the pathological processes.

May 7th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Sixth International Congress of Criminal Anthropology.

ONE fact which emerged from the discussions at this last and, on the whole, most successful of the International Congresses of Criminal Anthropology would suffice of itself as a *raison d'être* of the series—namely, the increase of juvenile crime and the progressively younger age of the criminal. Professor van Hamel of Amsterdam, M. Louis Albanet, juge d'instruction in the High Court of Justice in Paris; M. Paul Kahn of the Parisian bar, and the Signorina Ida Faggiani of the "Istituto dei Frenastenici" in Turin, all of whom read papers on the subject of juvenile crime, were at one on this gravely significant fact. Professor van Hamel led off with a luminous survey of the whole field of "young delinquency" and proceeded to suggest some drastic reforms in the traditional modes of dealing with it. The practice of segregating juvenile criminals *en masse* he would replace by the process of "selection" after a methodical and practical examination of each individual case. Treatment of the penal kind, whether in prison or penitentiary, ought, he urged, to partake more and more of the educative character, approaching as nearly as circumstances admit, to the family ideal. So conceived, the "punitive" discipline should be graduated in the order: (1) of admonition; (2) of amendment; (3) of brief sojourn in a house of correction; (4) of conditional condemnation to such a house; (5) of systematic and specialised education up to adult years in a Government institution; and (6) of emigration. All cases which after the adult age continued to show themselves incorrigible and dangerous would have to be subjected to surveillance, vigilant and systematic, in houses organised *ad hoc* (*maisons de santé*, houses of labour, and such like). Bold and comprehensive as are Professor van Hamel's proposals, he contends that they are quite practicable and have indeed been carried out with gratifying results in the United States of America. Expensive they would undoubtedly be to put in working but in the long run they would be a source of economy to the body politic. Italy in particular, where crime attains such formidable proportions, would find it cheaper to make a trial of Professor van Hamel's proposals than to continue in the vicious evils in which she has long been gyrating—adding yearly to her prison accommodation and prison staff only to send out the criminals (often prematurely) more than ever prone to crime and proficient in its ways. Not a few of the Dutch professor's auditors who took part in the discussion were even prepared to institute the "juvenile courts of justice" so successful in some of the States of the American Union—courts specially fitted to deal with young offenders, to take note of their individual characters, moral and physical, and to put them under influences conducive to their rehabilitation. Following on Professor van Hamel's lines, M. Louis Albanet reported very favourably on the "Patronage Familiale" as carried out in Paris—a medico-pedagogic clinique—the working of which was still further illustrated by M. Paul Kahn in a paper which sent something like a thrill through the audience in its accounts of the increasingly early age at which the young delinquent is taken up. Some cases, indeed, are nearer the infantile than the boy age! Monday's sitting (April 30th) was chiefly interesting for a brilliant paper by Signor Enrico Ferri who sits in the Italian Parliament for the constituency of Gonzaga. His theme was

The Prophylaxis and Therapeutics of Crime.

Assuming the position that the criminal ought, so far as possible, to be regarded as a "patient under treatment," he pleaded for a more elastic scale of punishment than that traditionally enforced in the law courts. The prison penalty determined to expire at a stated time is, he urged, quite ineffective. Either it constitutes a useless constraint in the case of individuals who have "amended themselves" before the expiry of their term, or it is without good results for those who, having served their time, are as bad as, if not worse than, before. In Italy, he said, society takes back to its bosom delinquents more formidable, more dangerous to it than ever, while it keeps in prison those whose moral rehabilitation is such as to make them useful citizens. Arguing from these premisses Signor Ferri would recommend a periodical revision of condemnations to prison, so as to admit of the restoration to liberty of those who are really reformed, while, on the other hand, prolonging the sentence of those whose criminality is undiminished, if not intensified. These bold suggestions found more encouragement from the Italian than from the other auditors, Italy feeling year by year the increasing burden of her congested prisons. The discussion with Signor Ferri's reply on the whole issue was one of the most fascinating on the agenda paper and will be found of special interest in the official report shortly to be issued. Signor Garofalo, the Venetian Procurator General, contributed a well reasoned paper in which, following on Signor Ferri's lines, he urged the necessity of instituting establishments for the detention, *in perpetuo*, of criminals declared irresponsible owing to mental incompetence. The last paper of supreme interest was that of Professor Sommer of Giessen on Recent Methods of Criminal Psychology, illustrated with graphic delineations. These latter and the reproduced "projections" which accompanied the reading of other contributions will be found an equally attractive and instructive feature in the "Atti" of the congress soon to be made *publici juris*.

May 5th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A National Quarantine.

THE Bill creating a national quarantine in the United States has passed Congress and with the approval of the President, which is assured, will become law. The enactment of this measure marks the breaking down of the old "State Rights" prejudices which have been a bar to progress in public health legislation on the part of the General Government ever since its first organisation. This measure is, however, but a step in the right direction, for it is limited to certain ports especially liable to the introduction of yellow fever. The law is well drawn, for it gives the Secretary of the Treasury, and through him the surgeon-general of the Public Health and Marine Hospital Service, the control of all quarantine stations, grounds, and anchorages, and directs that he shall select suitable places for them and establish the same at such points on or near the sea coast of the United States, and on the Mexican border, in order to prevent the introduction of yellow fever into this country. The Bill also provides for the establishment of a quarantine station at the Dry Tortugas Islands and at such other points at or near the sea coast—not to exceed four in the aggregate—as may be deemed necessary. This legislation is the outcome of the failure of local health authorities to protect New Orleans last year from an epidemic of yellow fever.

The Abatement of the Smoke Nuisance.

Smoke has become an intolerable nuisance in many cities and large towns where there is any manufacturing industry. The abatement of this nuisance has been prevented by the absence of adequate laws in many instances and the failure of health authorities to enforce laws and ordinances in others. To meet these conditions a "Smoke Abatement League" has been organised in Hamilton County, Ohio, the purpose of which will be to secure the passage of laws, State and municipal, which will protect communities from the damage and discomfort of smoke. The league will take all necessary measures to abate the nuisance and, when compelled to resort to the courts, will undertake the prosecution of offenders. The organisation also proposes to make scientific investigations into the effects of smoke upon the public health.

Department of Health of the Isthmian Canal Commission.

Chief Sanitary Officer Gorgas states in his monthly report for February that no case of yellow fever has occurred for three months. The city of Panama has been free from yellow fever since Nov. 11th. The Canal zone is free from other quarantinable diseases, though yellow fever, plague, and small-pox are prevalent in the South American Pacific ports. Yellow fever is prevalent in the ports of the Caribbean coast, both north and south, but such is the vigilance of the Commission's health department that the pestilence can get no foothold in the communities over which it exercises jurisdiction. Of over 23,000 canal employees there is an average of 472 patients daily in hospital which gives a constant sick-rate of 20 per 1000. This is a surprisingly

low sick-rate and shows an excellent state of health of the labourers.

Yellow Fever Inspection and Publicity.

The city of New Orleans suffered so severely from yellow fever last year from the inefficiency of health authorities that the citizens are taking early precautionary measures against the mistakes then apparent. At a large and representative gathering of citizens recently it was determined to render the city immune against this pestilence, a condition which they believed entirely possible by the strict enforcement of the anti-mosquito ordinance and such other sanitary measures as can be readily undertaken. The meeting earnestly urged each of the ward organisations to perfect its inspection service and pledged the funds necessary to carry on the work. This determined action of the citizens to take all needful precautionary measure against a repetition of last year's experience is extremely encouraging. The Parish Medical Society met soon after and resolved to enforce immediate reporting of every case by physicians, declaring "That any member of this society failing to make such a report will be deemed guilty of unprofessional conduct and be tried for such."

The Standard of Immigrants Raised.

The new immigration Bill before Congress fixes a higher standard for immigrants than has ever prevailed. The head tax is raised from $2 to $5; the educational test requires that every person above the age of 16 years admitted to the United States shall be able to read some language; every adult male immigrant must have at least $25 at the time of landing and every adult female immigrant at least $15, but heads of families may be admitted with their entire families provided they have $50. It places in the excluded class imbeciles, the weak-minded, and manual labourers of poor physique and gives the Department of Commerce and Labour discretion to admit or exclude immigrants under 16 years of age coming to this country alone.

The Philippine Medical Association.

The report of the annual meeting of this association is full of interest, as its proceedings illustrate the progress of medicine in the islands. The meeting was held on Feb. 28th, under the presidency of Dr. Victor G. Heiser. The association was addressed at its opening by the Secretary of the Interior, the Hon. Dean C. Worcester, formerly of Ann Arbor University, Michigan, who stated that the number of medical practitioners, good, bad, and indifferent, was absurdly small; there was one physician to every 16,399 inhabitants, and, outside of Manila, there was only one to each 50,455 inhabitants; and in a number of provinces there was no medical man of any description. He stated that the Japanese had conferred incalculable benefit upon medical science by their recent demonstration of what could be done to combat epidemics and to protect soldiers and sailors in war. The relations between the medical officers of this Government and those of the Japanese Government had been of the friendliest and most helpful character. In the early days serums and prophylactics were furnished by the Japanese. The control of the cholera epidemic by modern methods had been an impressive lesson to the people of the islands and especially important had been the preparation of cholera vaccine by the director of the Biological Laboratory, which had been proved to produce an extraordinarily high blood immunity against that disease. The Secretary spoke of the necessity of improving the hospitals and concluded by highly complimenting the work of the medical profession. The President, Dr. Heiser, reviewed the progress of medicine in the islands and stated that medical science held the key to the prosperity of the people; the last year had been of great importance in regard to medical progress by the passage of the Act establishing a medical school. The Philippines with an educated native medical man for every 1000 inhabitants would be a very different country with a different history; educated Filipino sanitarians were needed. Since the last meeting St. Paul's Hospital had been established in Manila; the Episcopal Church had completed the necessary arrangements for establishing a general hospital; the Methodists had opened a dispensary and were soon to have a maternity hospital in operation; the navy had completed a hospital at Canacao in Cavité; the army had completed another at Fort William McKinley; the Government had established a sanatorium in the mountains of Benguet; dispensaries were now operated by church organisations or by the Board of Health at many places throughout the provinces, while the indigent poor had been supplied with large amounts of medicine in remote districts. Many interesting papers were read during the sessions of the association and the spirit manifested was of the most inspiring character.

April 20th.

Obituary.

MATTHEW BAINES, M.D. LOND., M.R.C.S. ENG.

THE death occurred on Saturday last, May 5th, of Dr. Matthew Baines, of Cranley-place, South Kensington, one of the best-known and most highly respected general practitioners of the neighbourhood. Dr. Baines was educated at King's College, London, and entered the medical school of King's College Hospital more than 60 years ago, when George Budd and R. B. Todd were the physicians on the staff and William Fergusson and Richard Partridge the surgeons. He was therefore a contemporary at the school with Dr. Lionel Beale whose death we chronicled a few weeks ago. In 1845 Dr. Baines obtained the diploma of M.R.C.S., becoming also a Licentiate of the Society of Apothecaries of London; a little later he graduated in the University of London as M.B., obtaining the University medical scholarship and the gold medal for medicine. He was therefore marked out from the first as one who was going to succeed in his profession. After a course of study in Paris, at that time a usual proceeding with the more ambitious among English students, and after filling various minor appointments he proceeded to the M.D. degree and settled down in general practice. For very many years he practised in South Kensington where he was regarded as the *doyen* of the profession and where his wide scientific and general knowledge, his unfailing courtesy, his frankness, his charity, and his strict respect for professional methods gained him the esteem not only of a large number of patients but of all his medical brethren. "Dr. Baines was especially anxious to support all movements that might bring the medical man into closer touch with the public," writes an old friend, "and his interest in the Volunteer movement and in ambulance work shows this." He was a Surgeon Lieutenant Colonel in the 1st Middlesex Volunteers and possessed the Volunteer Decoration and was also a Knight of Grace of the Order of St. John of Jerusalem. He was also on the council of, and local secretary for, Epsom College. Until quite lately Dr. Baines had borne his years well but recent family bereavements had tried him sorely. He practically died in harness, a veteran universally respected.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Vincent Paulet, formerly professor of anatomy in the University of Montpellier.—Dr. Karl Fürstner, professor of mental diseases in the University of Strasburg.—Dr. Max von Braun, formerly body physician to the King of Bavaria. He was the son of Professor Jacob Braun.—Dr. R. Thomé, *privat docent* of anatomy in the University of Strasburg.—Dr. Ludwig Kleinwaechter, formerly professor of midwifery in the University of Innsbruck. He contributed a number of articles to Eulenberg's Real-Encyclopädie and to Hirsch and Gurlt's Biographical Dictionary of Medical Men.—Dr. Benjamin S. Roseberry, formerly professor of materia medica in the Baltimore University.—Dr. John B. MacCullum, assistant professor of physiology in the University of California, San Francisco.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. Octavius Edward Bulwer Marsh, M.R.C.S. Eng., L.R.C.P. Edin., J.P., of Newport, Monmouthshire, was, at the Newport Constitutional Club on April 28th, presented with a silver tray and a pair of silver jardinières as a mark of respect and esteem on the occasion of his "silver wedding."—On May 1st Mr. G. L. Kerr Pringle, M.D. Edin., of Whitley Bay, Northumberland, was made the recipient of a Jacobean tea service, together with a sum of money, as a mark of esteem and respect on his leaving the district. Dr. Pringle has only resided in Whitley for a few years but the popularity which he has gained in that time was shown by the way in which the testimonial was supported and by the enthusiasm displayed by his friends at the presentation.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

Held at Lisbon, April 19th—April 26th, 1906.

THE SECTIONS.

MEDICINE.

Chorea considered as Cerebral Rheumatism.

Sir DYCE DUCKWORTH (London) read a communication treating of the above subject. He said that chorea (of Sydenham) was now regarded as a disease caused by an infective agency and not merely as the result of shock or fright occurring in persons of neurotic and unstable temperament. He pointed out that the peccant matter of rheumatism which is now looked upon as of microbic origin—diplococcus or streptococcus—is assuredly the most frequent if not the sole cause of the infection. No other microbic element than this diplococcus had been discovered in those cases of chorea which were believed to be unconnected with rheumatism and independent of rheumatic influence. The infecting agent appeared to be somewhat similar to, but distinct from, other varieties of streptococcus which mark the ordinary forms of pyæmia. Consequently chorea should be considered as a form of rheumatism involving the membranes and cortical structure of the brain and was, in fact, cerebral rheumatism. In the pathogeny of chorea there was a neurotic element which predisposed subjects to the manifestation of symptoms, among others, of rheumatism. Therefore chorea must be regarded as a neuro-humoral disorder.

Myositis Ossificans.

Dr. EDWARD WOLFENDEN COLLINS (Sydenham) read a paper in which he dealt with a solitary instance of the very rare, progressive, and incurable dyscrasia known as "myositis ossificans." He stated that this was the only case of this malady which had come under his personal observation during a practice extending over a considerable period. Less than a hundred in number of similar cases had been recorded by British, continental, and trans-Atlantic observers. The subject of this uncommon pathological condition described by Dr. Collins was a little girl, now eight years of age. About a year after her birth bony kernels resembling enlarged glands, for which they were at first mistaken, were noticed in the neck. During the past three years the rigid condition of the neck had gradually increased with extension of the bony formations to the shoulders, pectoral muscles, and back; and in the course of the past three months bony deposits had also become manifest at the back of each heel in proximity to the insertion of the tendo Achillis. The outward movements of the arm had become seriously crippled owing to the extensive deposits in the pectoral muscles, while the rigidity of the muscles of the neck and back rendered bending movements impossible. Her forearms and lower extremities had escaped so far. Her only complaint was at times of pain in the back. She had not suffered in general health and none of her relatives, near or distant, had been afflicted in a like manner. At the time of her birth the shortening of the big toes with deviation towards the middle line of the foot attracted attention. This remarkable congenital deformity, said Dr. Collins, wherein the big toe presents only one phalanx and that deviating outwards—a combination of micro-dactyle with hallux valgus—had been noticed in so many cases of myositis ossificans that it could hardly be regarded merely as a coincidence, and it might be added that a similar congenital deformity of the thumbs had been occasionally observed in cases of this disease. In summing up the information at our disposal concerning this strange form of degeneration it might be stated briefly that it commenced, as a rule, in childhood, owing to some constitutional proclivity to bony deposit. It was not of hereditary origin, as no instance was known of its occurrence in parent as well as in offspring or of its having affected more than one member of a family. Its pathological essence was the deposition of bony masses in the cellular tissue which binds the muscular fibres together, causing absorption of these fibres and taking their place. That the bony deposits consisted of true bone tissue had been clearly demonstrated whenever, after excision, their chemical and microscopical composition had been determined. Nothing was known of the first causation beyond the fact that in many instances injury had been either the apparent starting point or had aggravated the malady and that not infrequently it had followed exposure to cold or a chill, in this respect, as well as in the pains which accompanied it, showing an affinity with muscular rheumatism, and more especially in respect of its bony outgrowths with rheumatoid arthritis. Its course was essentially chronic and progressive, though not without periods of remission. It usually began in the muscles of the neck and back, whence it spread gradually to those of the shoulders, chest, and limbs to such a degree that the chest finally became an immoveable cuirass and voluntary movements of the limbs became impossible. The abdominal muscles, however, with the diaphragm and other vital muscles, enjoyed a singular immunity. Visceral and joint lesions were conspicuous by their absence and the general health remained unimpaired. Death was generally brought about by pulmonary complications, aggravated, if not induced, by the crippled movements of the chest walls, or by the sloughing of the tissues over prominent bony outgrowths with sequelæ of sepsis. Treatment had been found unavailing even to arrest the progress of the disease.

Successful Treatment of the Fulminating Form of Appendicitis simulating the Onset of a Severe Attack of Influenza or of Acute Pneumonia by Iron Acetate and Belladonna.

Mr. HERBERT J. ROBSON (Leeds) read a communication on the above subject, in which he pointed out that treatment of pneumonia by the regular administration of iron acetate and strychnine (in those cases in which the latter drug was called for) was indicated in cases of severe broncho-pneumonia occurring in infants or in children and in catarrhal and lobar pneumonia occurring in debilitated subjects. Two properly trained nurses should be available for night and day respectively, as the regular administration of strychnine by day and by night kept up the heart's action and the danger of heart failure at the crisis was very much lessened. Such treatment was called for, too, in that infectious, creeping, and spreading form of pneumonia following or accompanying influenza. By using these therapeutic measures the crisis was hastened and favourably modified, the virulence of the disease was lessened, and the complication of empyema seldom occurred. Even when bronchitis was present there seldom seemed any need to prescribe depressing drugs like ipecacuanha, as the iron acetate acted as a good expectorant. Mr. Robson stated that according to his view of the situation, referring particularly to the treatment of the fulminating form of appendicitis, the patient or a friend of the patient should first be told how matters stood so that the option of immediate operation might be given, as well as the option of consultation with an operating surgeon. An opiate should be given to relieve abdominal pain, extract of belladonna administered every three hours until physiological symptoms of belladonna were noticed, when its administration should be less frequent, and a mixture of solution of perchloride of iron 15 minims, solution of acetate of ammonia two drachms, with chloroform water in sufficient quantity, should be given every three hours in water. Hot applications might be used to relieve headache and backache, derivatives of the coal-tar series being carefully avoided; warmth should be applied to the abdomen, while a rectal soap enema might be given to relieve constipation when present, purgatives, of course, being avoided. The patient should be put on a light nutritious diet and strict rest in a recumbent position should be enjoined and the temperature of the bedroom kept at 60° F. by night and by day. The administration of belladonna should be regarded as an important adjunct in the treatment, not only on account of its sedative action upon the intestines but also because of its anti-suppurative action, as pointed out by Christopher Heath, Ringer, and others.

OPHTHALMOLOGY.

Colour Contrasts and Astigmatism.

Dr. C. A. OLLIVER (Philadelphia) read a paper on this subject founded upon several hundred experiments made with the aid of, and at the suggestion of, Dr. S. Weir Mitchell. The subjects were intelligent ametropes of both known and unknown kinds and degrees of astigmatism. During the experimentation a distinct relationship between

the character of the colour contrasts and the astigmatic conditions of the observer was so constantly obtained that the following broad generalisations were rendered permissible. 1. Coetaneous contrast colour complements are more certain, more pronounced, and more complex in positive relation with the kind, the degree, and the meridionality of the existent astigmia. 2. Coetaneous complementary colour contrasts in their primary and least complex types appear as faint red-green bands which begin as a series of marginal stripes along the watery borders, the red being the first evolutionised tint; these being the most prominent colour factors in the simpler and the more regular forms of astigmia. 3. Coetaneous colour contrast complements in their more complicated varieties superadd determinate degrees of simultaneous blue-yellow complements to the red-green series, these associated subjectivisms being fixed in form and positive in position in direct relationship with the grossness of the amount of the resident astigmia and its departure from prevalent angle. 4. Complementary colour contrasts of coetaneous types in their most exaggerated forms are always found in strict association with the highest degrees and the most bizarre types of regular and irregular astigmia.

Trachoma.

Dr. MELLO BARRETO (São Paulo) read a paper founded upon his experience in dealing with this condition, which is propagated very commonly in his neighbourhood among Italian colonists. Brazilian farm hands, he said, even in contact with the Italian colonists, rarely contracted the disease. Chibret's law, which establishes that at altitudes greater than 200 metres trachoma does not obtain, is not verified in the State of São Paulo, Brazil, where the coffee zone is always above 500 metres, so that the Italians' predisposition for the disease must lie in their race. The treatment of trachoma, he suggested, was mainly prophylactic, all close relations with sufferers are risky, and the patient should take great care not to spread the disorder by the objects of his personal use—for instance, towels and handkerchiefs. The curative treatment of trachoma among the Brazilian practitioners, he said, consisted of submucous injections under the eyelids of a 1 per cent. solution of pyoktanin. Ten drops of the pyoktanin are injected in the submucous tissue of the eyelids, with the result that at the end of an hour a great venous hyperæmia supervenes. The injection promotes a flooding of the trachomatous tissue and so an œdema is produced which smoothes off the rugous and irregular surface of the tissue. The submucous injections of the eyelid with an aqueous solution of 1 per cent. of pyoktanin should be repeated as often as the œdema produced by the treatment disappears, leaving still granulations behind. Dr. Barreto warned his audience against more drastic measures, pointing out that the scars resulting from cauteries or from the crushing of the granulations are more dangerous than the granulations themselves to the ocular globe.

OBSTETRICS AND GYNÆCOLOGY.

Professor KARL HENNIG (Leipsic) discussed

The Nomenclature of Obstetrics.

He pointed out the necessity of a terminology which could be universally understood by obstetricians in all countries. Latin was employed in botany and zoology and a similar simplification of the scientific terms employed in obstetrics was called for. He presented a very exhaustive table of obstetrical terms, giving the equivalent expressions in six languages—viz., Latin, Greek, French, German, English, and Italian.

Professor CANDIDO DE PINHO (Oporto) read a paper on

The Auto-intoxications of Pregnancy.

No one disputed the saying that "every pregnant woman is in a condition of auto-intoxication." Certain of the toxic agencies had been long recognised. For example, it had long been known that the total excretion of urea and nitrogen in pregnancy was below the normal, and further, of two pregnant women, one of whom felt well and the other ill, the latter had the smaller nitrogenous excretion. Formerly many theories regarding the cause of this phenomenon had been advanced, all starting, however, with the hypothesis of renal inadequacy. Later, experimental physiology had proved the profound action of the liver on the blood and on endogenous and exogenous toxins, and this study had originated theories of hepatic insufficiency. As facts accumulated an extensive knowledge was obtained of internal secretory glands, the defences of the organism, the metabolism of nutrition, the properties of the fluids, and the action of the various cells and tissues, and at the present time the auto-intoxication of the pregnant state was interpreted as being the result of an *antitoxic insufficiency*. The toxins in the body of the pregnant woman were endogenous and exogenous, corresponding to maternal and fœtal toxins. 1. The *maternal* poisons originated from (*a*) delayed assimilation, and (*b*) the digestive tract. With regard to the first factor, the total nitrogenous excretion was diminished by 16·9 per cent. and the urea by 18 per cent.—figures pointing to mal-assimilation of albuminoid material. Those organs which influenced cellular metabolism (e.g., liver, thyroid, and ovary) were affected, and led to alterations in the pigments, the chemical reactions of the fluids, the leucocytes of the blood, and the nervous system, in a manner not yet fully determined by experimental pathology. Some women felt unusually well during pregnancy; such cases were explicable by the fact that a small quantity of toxin had a stimulating effect. With regard to the second factor, the researches of Professor Charrin had proved the importance of the intestinal toxins in pregnancy. Many vascular and hæmic changes formerly supposed to be due to cardiac and cardio-vascular disease were now recognised consequences of toxæmia of intestinal origin. These changes were briefly described and the history of several cases was narrated. 2. Toxins also originated from the *fœtus* and the *placenta*. Bordet and Metchnikoff in France, and Ehrlich and Morgenroth in Germany, had opened up an unexpectedly large field in cytology and since 1898 there had been a flood of literature on cytotoxins. A brief summary was then given of the action and nature of cytotoxins and anticytotoxins. He (the speaker) was of opinion that in the physiology of the placenta would be found the explanation of much of the problem and quoted in support of this view the biological researches of Letulle, Veit, and Schölten. The theory was well summarised by Bandler.[1] The placenta gave off into the maternal circulation elements derived from its ectoblast, trophoblast, and syncytial cells; the placenta acted upon the maternal blood and was in turn influenced. The maternal blood contained some element the function of which was to resist, modify, or counteract the placental secretion. The ovary furnished this element. Eclampsia was best explained by a mal-secretion of the placental gland or preferably a relative mal-secretion due to insufficient or abnormal modification of the placental secretion by the elements furnished by the ovaries. The auto-intoxication of pregnancy, therefore, was due to (1) increased toxins and (2) decline of the defensive power of the body, either from overwork or congenital weakness; in other words, the patient had an *antitoxic insufficiency*.

M. GUSTAVE RICHELOT (Paris) read a paper on

The Treatment of Uterine Retro-displacements.

He started by stating that, for his purpose, no distinction need be drawn between retroversion and flexion. Retro-displacements were either (1) symptomatic or (2) primary. In (1) the uterus was bound down by adhesions and parametritis might be present. Obviously the retroversion was, then, due to inflammation of the peritoneum or uterine appendages dragging the womb out of position. In such cases one of two methods of treatment might be adopted: (*a*) total extirpation of the uterus or (*b*) a conservative operation might be performed, the uterus being left while its appendages were removed. The cause of the pain and other symptoms having been removed it did not then matter whether the uterus remained in position or not. (2) The term primary retroversion did not necessarily imply the absence of any cause whatever but it did imply that the uterus was mobile, that no adhesions were present, and that the tubes and ligaments were healthy. It was found in young girls, in nulliparæ, and also in child-bearing women. M. Richelot then discussed the causes to which this condition was usually attributed—puerperal metritis, metritis, "the weight of the organ," relaxation of the tissues, mechanical causes such as a full bladder, constipation, and prolonged decubitus—and emphasised his disbelief in the prevalent theory that the retroversion was due to an infection. The most rational theory put forward was the slackening of the ligaments consequent on pregnancy; but he had often seen the condition present in young girls. He had found retroversion

[1] American Journal of Obstetrics, April, 1903.

associated with moveable kidney, enteroptosis, and hernia; it occurred, in his opinion, in those with a neuro-arthritic diathesis, whose chief symptom was a tendency to a loosening or "want of tone" of all their fibrous tissues. Research conducted on this line would, he felt certain, explain the uterine condition. The clinical symptoms were then fully narrated in order of evolution and the chaos of prevalent teaching on the subject was reduced to the simple element of congestion. M. Richelot then passed to the treatment. Five years previously he had recommended an operation (first conceived by Doléris) which had at the time provoked adverse criticism. It consisted in making a short median laparotomy, seizing the round ligaments at a short distance from the uterine cornua, where they were firm and thick, bringing them up to the inferior angle of the wound, and fixing them firmly with two or three catgut stitches. The crux lay in the method of fixation; the ligaments must be inserted into the thickness of the muscular aponeurotic layer; if they were sutured only to the peritoneum the fixation would be useless. Doléris had added a modification to this but the ease and simplicity of the above recommended it. Alexander's operation was criticised and the operations in vogue at former times were passed in review. Between October, 1899, and September, 1905, M. Richelot had performed the operation recommended above on no fewer than 80 patients. In 18 of these 80 slight traces of peritoneal irritation had been detected at the time of operation; in 62 the peritoneum had been normal. The uterus in all cases had been mobile; the cases had belonged to the group of primary retroversions. Of these 80 cases only one had not been relieved, 25 had been lost sight of after apparent cure, 15 had been operated upon so recently that it was unfair to count them as cured, and 39 remained quite cured. By "cured" he meant absence of pain and fatigue after exercise, a resumption of social and other duties fulfilled by healthy women. Three of the patients had become mothers and had not had any return of uterine symptoms. M. Richelot then narrated in detail four cases which served as examples of the way in which the operation transformed a patient from a weary, suffering invalid to an active and a useful member of her household.

Dr. ALFREDO DA COSTA (Lisbon) read a paper on

The Indications for, and the Technique of, Cæsarean Section.

The various operative methods employed in cases with contracted pelves were first reviewed. 1. Symphysiotomy was easily performed, but very dangerous complications were liable to accompany or to follow it, such as involvement of the urethra, rupture of the vagina and vulva, and persistent pain at the pubes, and the sacro-iliac joints. 2. Ischio-pubiotomy was originated and once successfully performed by Farabeuf; this operation, however, had been abandoned by its inventor. 3. Hebotomy, or pubiotomy, Gigli's operation, had in Dr. da Costa's opinion a future before it on account of the simplicity of its performance. It was, in fact, a perfected symphysiotomy, inasmuch as it had none of the dangerous drawbacks of symphysiotomy. 4. Embryotomy was not performed nowadays. Cæsarean section was preferable to all these methods, excepting when the membranes had been ruptured for some time or the uterus was the site of any infection which might pass into the general circulation. The most appropriate time for the performance of the operation was at the commencement of labour; he disapproved of its performance before labour started, because every prematurely born infant started life at a disadvantage. In the choice of the uterine incision the surgeon must be guided by the special circumstances of each case. The longitudinal anterior median incision was usually best. Before the uterus was opened, and certainly before the extraction of the child, an assistant should place two fingers in the vagina ready to push up the presenting part when requested by the operator. All forms of uterine suture were good if, in addition to strength, they had perfect adaptation of the incised edges and were impermeable to the passage of fluid from the uterus. Extra-peritoneal Cæsarean operations had not much clinical value. Dr. da Costa then described at length an original and ingenious method of suturing the abdominal wall; the scar was not only firmer but the skin cicatrix was narrower and less disfiguring than that produced by the ordinary method. The peritoneum, the muscular aponeurosis, and the skin were separately sewn up with silk, the two ends of each thread being tightly wound round a button specially devised for the purpose and fixed with collodion. When the wound was healed the buttons and the thread were easily removed, leaving a narrow linear scar in the middle line.

Dr. TH. TUFFIER (Paris) and Dr. DE ROUVILLE (Montpellier) communicated a paper on

The Treatment of Uterine Fibroids.

The general indications regarding operative interference had not altered since 1899 and might be summed up thus: (1) rapidly growing fibroids should be removed; (2) stationary fibroids should be left alone; and (3) fibroids compressing the bladder, intestines, or ureters, or causing profuse hæmorrhage, should be got rid of. Albuminuria and cachexia were usually mentioned as contra-indicating an operation. In the presence of albuminuria the urine was carefully examined as to the power of excretion of methylene blue and salts by the kidney, and when the results proved satisfactory operation was recommended. Anæmia and mild septicæmia were indications for operation. Medical treatment by rest, hot injections, and electricity was discussed. The best results were obtained by water containing chloride of sodium; the waters of Balaruc, Salies, and Brucoulz appeared to diminish the congestion, and hence the volume of the tumours, and were to be recommended in cases where operation was inadvisable. Palliative surgery consisted of curetting, ligature of the uterine arteries, and removal of the ovaries. The last named was the most efficacious when practicable. Curative surgery consisted of hysterectomy and enucleation and when possible enucleation was preferable. The indications for vaginal and transvaginal enucleation were reviewed and the indications for hysterectomy considered at length. The mortality of abdominal enucleation was 2·75 per cent. and relapses were rare. When considering the methods of procedure for hysterectomy a note of warning was sounded as to the danger of the Trendelenburg position for stout patients and those whose circulation was feeble. Unless the cervix was involved it was preferable to leave it *in situ;* there were few indications for total hysterectomy. The treatment of fibroids complicated by pregnancy was fully discussed.

MILITARY MEDICINE.

Secondary Disinfection of Infected Gunshot Wounds.

Colonel NICHOLAS SENN, M.D. (Chicago), communicated a paper on the above subject. Dr. Senn is an authority of some note with regard to gunshot wounds, he having had a considerable experience of such injuries during the Spanish-American war. Dr. Senn's worldwide reputation as a surgeon also added weight to his testimony. He pointed out that as the fate of the wounded depended largely on the thoroughness with which first aid was rendered, the military surgeons must make ample provision in time of peace in order to secure efficiency of this service in time of war. Attention was drawn to the fact that first-aid dressing should combine simplicity with safety against infection after injury. The point was dwelt upon that first aid must have in view the treatment of shock, hæmorrhage, dressing of wound, and immobilisation of the injured part. Dr. Senn laid down as an invariable rule in the treatment of gunshot wounds that the probing of such wounds must be prohibited. Furthermore, he insisted that in no circumstances should attempts be made to extract bullets until this could be done in a well-equipped hospital under the strictest aseptic precautions, and then only in cases where an operation of this nature was clearly indicated by the fact that the bullet could be felt through the intact skin or its exact location had been determined by the employment of the x rays. The conclusions arrived at were as follows: duties of the surgeon at the first dressing, inspection of first-aid dressings and more efficient immobilisation of the injured part. Immediate duties: emergency operation, as definitive arrest of hæmorrhage, amputations, and laparotomy.

Lieutenant-Colonel JOSÉ BARBOSA LEÃO (Lisbon) read a paper on

Surgery in War at the First aid Stations at the Front.

He reviewed the conditions under which these stations had to work and discussed the methods of dealing with the wounded on the field of battle. The medical officer should never

forget that the outpost station at the best was only a halting-place for the wounded on the way to the ambulance and that he had only to aim at preparing for them as easy and comfortable a journey as possible. The sick and wounded must also be sent away as soon as possible; only the dying should be retained at the outpost station. He summed up the duties of the medical officer in charge: (1) to send back to the ranks after suitable treatment men whose lesions were insignificant and who could continue to fight; (2) to apply the recognised dressing to simple wounds caused by rifle bullets of small calibre; (3) to arrest or to diminish profuse hæmorrhage by compression of the main artery at a distance from the wound when possible or by compression of the wound itself with an aseptic pad of wool soaked in very hot water; (4) to put up broken limbs in improvised splints; (5) to perform tracheotomy where the neck was wounded and imminent asphyxia threatened; (6) to give morphine hypodermically where pain was intense and ether injections or camphor oil to the wounded who were in want of energetic stimulation; (7) to have the water boiled, whether for cleansing the hands or for other purposes; (8) to protect from infection by means of a coating of collodion those parts of the skin where it was necessary to make an injection or an incision and also all wounds requiring a dressing; and (9) to send the wounded to the ambulance—in the first place, those who had hæmorrhage arrested by compression; secondly, those who urgently required any operation; and thirdly, those severely wounded whose wounds could not be properly attended to at the outpost station.

M. MANUEL GIÃO (Lisbon) read a paper on the

Organisation of the Military Medical Service at the Front.

He quoted approvingly the saying that "the success of the medical service depended upon its organisation." He was glad that the subject had been considered worthy of discussion at an International Congress; this could only result in improvement of the lot of the wounded at the front in war. In most armies the military medical service at the front consisted of three divisions, which might be broadly described as (1) the regimental service; (2) the ambulances; and (3) the hospitals. The first two divisions had always to be in readiness to follow the movements of the troops and to that end to get rid as soon as possible of their sick and wounded. Thus the outpost stations passed on patients to the ambulances and these in turn passed them on to the hospitals on the same or the following day. This method of organisation was open to criticism; it was incapable of being adapted to a sudden call on the battlefield. Gavoy had proposed the creation of a hospital providing vehicles for the transport of the wounded, thus relieving the ambulance and permitting it to come to the aid of the outpost stations. M. Gião had recently instituted a new organisation for the Portuguese army at the front which he briefly described: (1) preservation of the regimental service; (2) substitution of the ambulances and hospitals by medical formations of a uniform type; (3) collection of material for the transport of the sick and wounded in an independent division; and (4) creation of a new unit supplied with hospital material sufficient for the needs of these formations when they became stationary. These new formations were called *hôpitaux de sang;* the division for transport was called the transport column and insured the transport of the wounded on the battlefield; the new units or hospital columns carried all the stores necessary for the *hôpitaux de sang* when they required to become stationary for the treatment of severely wounded men. Each hospital and each column formed an independent unit from the administrative point of view. The hospitals did not relieve each other, they exchanged places in the marching columns. They were relieved by the service of the second line. The hospital was controlled by a medical officer, the transport column by a transport officer, and the hospital column by an administrative officer. The three units could be arranged according to the necessities of the service. The command of the party always reverted to the medical officer. To be turned to the best account the hospitals and the accessory columns ought to be placed under the immediate orders of the chief medical officer of the unit. M. Gião gave details as to the attending staff, the stores and the material required, and the respective duties of the regimental service, the transport column, the *hôpitaux de sang*, and the hospital column. He considered that each division should have six *hôpitaux de sang*, two transport columns, and four hospital columns.

FORENSIC MEDICINE.

The Procuring of Abortion.

Dr. STANLEY B. ATKINSON (London) read a paper dealing with the circumstances which justify an operation with a view to procuring abortion. After laying down as a necessary reason for such interference the strong probability that continued pregnancy would prove fatal to the prospective mother he proceeded to cite instances illustrating the principle thus enunciated, emphasising the duty of establishing beyond question the existence of the physical conditions relied upon.

Professor VAN DER VEER (Albany, U.S.A.) in a subsequent paper attributed the criminal procuration of abortion among the very poor to temptation arising out of their extreme poverty; among the middle classes to a desire to avoid the expense of a family, lest it should affect their social position; and in the wealthy classes to the desire to avoid the trouble of rearing children, coupled with the fact that money enabled these to obtain what they desired with a comparative degree of safety. He urged that it was the duty of a medical man called in as a consultant, if convinced that criminal abortion had been procured, to inform the proper authorities at once of the fact that it had taken place and insisted that in cases where there was evidence that a medical man, or a woman having medical skill to aid her, had procured abortion every step should be taken to bring about the punishment of the guilty person. He mentioned the increased safety attending the crime of procuring abortion in consequence of modern precautions to avoid sepsis but nevertheless he was of opinion that information disseminated as to the inevitable physical danger would do much to prevent women from running the risks involved, and also that duly imparted knowledge of the enormity of the crime might also serve as a deterrent.

Railway Surgery in America.

Dr. GEORGE CHAFFEE (Brooklyn) and Dr. CLARK BELL, LL.D. (New York), described the development in the United States of a class of surgeons devoting themselves to the study and treatment of accident cases occurring upon the extensive and growing railway systems of the country and gave particulars of the organisation of the railway surgeon's practice and of the work performed.

The Scientific Treatment of Social Offenders.

Dr. J. MOUNT FLEYER (New York) compared and contrasted the effects of "nature" and of "nurture" in the production and reformation of criminals. He was of opinion that where hereditary conditions pointed unmistakeably to the procreation of an offspring predestined to inherit criminal propensities "nature" would not be overcome by "nurture" and the criminal element would remain paramount in the character of the subject in spite of the efforts made to direct and to reform it. He discussed in detail the duty of the State in the restraint, education, and reformation of the degenerate.

Insanity in Prisons.

An interesting paper was read by Dr. PACTET, chief medical officer of the asylum of Villejuif, having for its subject the frequent occurrence of cases of mental disease in prisons without recognition and without proper treatment being accorded to those affected. The existence of insane prisoners subjected to the discipline imposed upon ordinary prisoners Dr. Pactet declared to be established by the unanimous testimony of prison governors, of medical alienists who had had the opportunity of forming opinions on the subject, and particularly by an inquiry which he himself had conducted, and in the course of which he had consulted experts in various countries. Some of these prisoners were insane when sentenced, others had since become affected. The exact proportion which they bore to the sane inmates of the same institutions could not be established owing to the lack of scientifically compiled data, but available statistics from abroad seemed to point to 5 or 6 per cent. at least as a probable proportion, while according to the opinion of several prison governors in France about 15 per cent. of their charges might advisedly be submitted to examination as to their mental condition. In the existing state of affairs, however, the presence of insanity remained undetected even after a long period of imprisonment had been undergone, and in an instance referred to a man condemned to five years' confinement for homicide completed his sentence as an ordinary prisoner when he should have been in a lunatic asylum.

This, in fact, was what would naturally occur so long as the insanity of the convict was not such as would prevent altogether his compliance with the discipline of the prison. Such a state of affairs violated the principle with which all would now agree, that the proper place for the detention of a person mentally defective was an asylum, and it had been responsible in one case for a dangerous attempt upon the life of a prison warder committed by an insane prisoner upon the very day of his release from gaol. In discussing remedies Dr. Pactet pointed out that if the medical officers of prisons were qualified by training to detect and to deal with mental disease the evil would be considerably diminished, but he was of opinion that in order to reduce it effectively it would be necessary to follow the example set by Belgium and to establish a system of thoroughly qualified medical commissioners specially empowered to remove and to place in suitable asylums prisoners found to require the treatment accorded to the mentally defective. He described an attempt in this direction, consisting in an inquiry due to the initiative of Dr. Henri Colin, his colleague at Villejuif, but in spite of official support, enabling them to examine prisoners whose records led them to suspect insanity, opposition and resistance had arisen which had crippled the efficacy of the work done. The establishment by law of a special service for the mental examination of prisoners was, he urged, a reform in which Belgium had set the example and towards which the favourable opinion of the Congress might materially contribute.

Other Papers.

Addresses relating to, and arising out of, a charge of murder by the inhalation of chloroform in the United States were also read in this section and Dr. THEODORE SCHROEDER (New York) contributed a paper on the question, How Should "Obscene" be Defined in Legal and Medical Literature?

COLONIAL MEDICINE.

Dr. F. W. MOTT (London) read a paper upon

Histological Observations in Sleeping Sickness and other Trypanosome Infections

in which he came to the following conclusions which were supported by experimental evidence:—1. Sleeping sickness was a chronic disease caused by the trypanosoma Gambiense conveyed by a biting fly, the glossina palpalis. 2. Every case of sleeping sickness—30 in all—which he had examined (including the European case recorded by Sir Patrick Manson) had presented the same characteristic meningo-encephalitis which he described in 1898. 3. There was a parallelism between the intensity of the lethargy, the chronicity of the disease, and the characteristic histological changes in the central nervous system. 4. The disease was characterised by a chronic polyadenitis which was followed by a chronic inflammatory change in the lymphatics of the brain and spinal cord. 5. This chronic inflammatory change was manifested by a proliferation and overgrowth of the neuroglia cells, especially of those which were related to the perivascular lymph spaces, also a proliferation and accumulation of lymphocytes in the dense neuroglial meshwork. The lymphocytes might in chronic cases form plasma cells, as they did in the chronic inflamed lymphatic glands. Various other cells were met with in less numbers, some being the result of degenerative changes, others were endothelial with phagocytic activity. 6. Examination of the fresh juice of the glands obtained during life by puncture proved conclusively that the trypanosomes were the cause of their enlargement and of the chronic inflammatory changes met with in them. The microscopic evidence of the existence of trypanosomes in sections of the lymphatic glands was not more satisfactory than the evidence of their existence in the perivascular and meningeal infiltration of the nervous tissues. Chromatin particles, some of which might be micro-nuclei and macro-nuclei, could be seen as well in one as in the other and only very rarely could a trypanosome be found. 7. All cases of sleeping sickness had trypanosomes in the cerebro-spinal fluid at some time or other and it was probable that the entrance of the trypanosomes into this fluid marked the onset of, and slowly caused, the chronic inflammatory changes in the lymphatic system of the central nervous system. The alternative hypothesis was that the trypanosomes by multiplying in the lymphatic glands produced a toxin which was absorbed by the lymphatics proceeding along the vessels and nerves to the cerebro-spinal axis, the route being especially from the cervical glands by the lymphatics of the large vessels and nerves entering the base of the skull. 8. The infrequency with which trypanosomes could be demonstrated in the blood and infiltrations of sections of sleeping sickness tissues might also be accounted for as follows: (*a*) the trypanosoma Gambiense was not found without careful search in blood films even of severe cases; and (*b*) after death in 80 per cent. of the 30 cases which he had examined secondary or terminal microbial infection (generally by the diplococcus or diplostreptococcus) was found, and as the culture experiments of Novy and McNeal show, micro-organisms were inimical to the growth of trypanosomes in the blood and infiltrations. The case in which he found most evidence of trypanosomes in sections of the tissues was a chronic case uncomplicated by microbial infection. There was evidence to show that diplococcal invasion might be followed by inability to find the trypanosomes in blood films—e.g., the European case.

THE ROYAL SOCIETY CONVERSAZIONE.

THE Right Honourable the Lord Rayleigh, O.M., M.A., D.C.L., President of the Royal Society, received a distinguished number of guests on the occasion of the first annual conversazione which was held at Burlington House on May 9th. The exhibits were more than usually numerous and wider in character than has been the case for some years and it did not seem to matter what particular field of science the visitor may have been interested in he was sure to find some illustration touching on his own study.

On the whole the application of the microscope to scientific research was the principal feature of the exhibition. It would not be an exaggeration to say that there were hundreds of microscopes in use. To begin with, Mr. J. E. S. Moore and Mr. C. E. Walker showed microscopic slides exemplifying recent researches in cell division. The preparations showed (1) leucocytes lying in cytoplasm in the early stage of cancer; and (2) first maiotic (heterotype) division in cancer of the breast, the division figures in this form of cancer being supposed to be rare. (These were products of the joint research with Professor Farmer.) There were also specimens showing characteristic permanent forms in chromosomes of first maiotic (heterotype) division, pluri-polar mitoses and amitoses in bone marrow, division figures in germinal area of lymphatic gland, and cells destined to become foot cells in the testis of embryo guinea-pig. Close by were some photomicrographs taken by Léon Foucault in 1844 of blood, milk, and crystals by Daguerré's method. The importance of the microscope in the examination of iron and steel also was admirably illustrated in the photomicrographs placed at the disposal of the Royal Society by the director of the National Physical Laboratory. Professor W. F. Barrett showed an "entoptiscope," an instrument which enables anyone to observe, to delineate, and to measure an obscurity, however minute, within the path of the rays in the eyeball. Next to the microscope the application of photography to astronomy formed a very interesting series of exhibits. The photographs of the solar corona shown by the Rev. A. L. Cortie and the Astronomer Royal were marvellous. They were taken during the total solar eclipse of August 30th, 1905. There were two interesting demonstrations of spectroscopic study. Sir William Crookes showed many photographs illustrating the ultra-violet spectra of metals while Dr. W. Marshall Watts exhibited a binocular spectroscope which gives very beautiful results. Sir James Dewar, F.R.S., exhibited a number of metallic jacketted vacuum vessels filled with liquid air. Next to this exhibit Mr. C. V. Boys, F.R.S., demonstrated the use of a gas calorimeter which is used for determining the heating value of illuminating gas. Since the introduction of incandescent gas lighting this test has become more important than the measurement of illuminating power. Messrs. Wallach Bros. exhibited the rescue apparatus used in the appalling mine disaster at Courrières. Amongst the exhibits also was a "first-aid" case for use in poisoning by carbonic oxide and other gases. Dr. G. T. Moody exhibited specimens illustrating the indifference of oxygen towards iron in the presence of water and the effect of the admission of carbonic acid. The experiment seems to

establish that the rusting of iron only takes place in the presence of carbonic acid. Professor Wyndham Dunstan showed some interesting minerals from Ceylon and also some from Canada, while the exhibit included some specimens illustrating an investigation on certain cyanogenetic plants. Sir Oliver Lodge and Dr. Alexander Muirhead exhibited a portable set of wireless telegraphy apparatus for military field purposes available for communication across country for distances up to 50 miles or 150 miles over sea. Professor John Milne exhibited seismograms of three recent earthquakes, including that which occurred at San Francisco. The Royal Observatory, Edinburgh, exhibited similar records. Mr. E. G. Rivers explained the construction and working of a new electric heater, in which a large heating surface kept at a moderate temperature is employed, silicated carbon with a terra-cotta base forming an "element." The apparatus, it is said, will warm a room 12 feet by 12 and 10 feet high at a cost of a little over 1*d.* an hour with the current at 1½*d* per unit.

Demonstrations in the meeting room by means of the electric lantern were given by Mr. G. W. Lamplugh, who exhibited some very fine photographs of the Batoka Gorge of the Zambesi river, while Professor Sylvanus P. Thompson gave an admirably illustrated account of the electric production of nitrates from the atmosphere. The method consists in converting the nitrogen of the air into nitrous vapours which takes place by passing air through "a roaring disc of flames" or electric discharges about six feet in diameter. The nitrous fumes are absorbed in water and in quicklime. The product is used for agriculture and the power in the particular instance cited is furnished by waterfalls in Norway. One kilowatt, Professor Thompson states, may be taken as able to produce 500 kilogrammes of nitrates at least per annum.

Medical News.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the convocation held on April 28th the following degrees and diplomas were conferred:—

Doctor in Medicine.—Charles Harold Clarke, M.B., B.S. Durh.; Ida Emilie Fox, M.B., B.S. Durh.; Harold Linton Heslop, M.B., B.S. Durh.; Herbert Lovis Noel-Cox, M.B. Durh.; Thomas Young Simpson, M.B., B.S. Durh.; and James Bowden Waters, M.B., B.S. Durh.

Doctor in Medicine for Practitioners of 15 years' standing.—Bennet Harvey Andrew, M.R.C.S., L.R.C.P., L.S.A.; Henry Buxton, F.R.C.S. Edin., L.R.C.P., L.F.P.S.G.; Ernest Carrick Freeman, M.R.C.S., L.R.C.P., D.P.H.; John Frederick Nall, F.R.C.S. Eng.; Richard Reginald Sleman, M.A., L.S.A.; James Pixton Walker, M.R.C.S., L.R.C.P.; and Alfred Whalley Waller, M.R.C.S., L.R.C.P.

Bachelor in Medicine (M.B.) and Bachelor in Surgery (B.S.).—William Frederick Cheese, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; James Henry Cooke, B.Litt., Hamilton Drummond, Horsley Drummond, and Wilfrid Fairclough, College of Medicine, Newcastle-upon-Tyne; Archibald Finlay, London Hospital; John Galloway, L.R.C.P. & S. Edin., L.F.P.S.G., College of Medicine, Newcastle-upon-Tyne; Sampson George Victor Harris, M.R.C.S., L.R.C.P., D.P.H., Charing Cross Hospital; Arthur Beresford Jones, John Cuthbert Pearce, A.Sc., Robert Blackett Reed, William Seymour, Frederick James Strachan, and Edward Tate, College of Medicine, Newcastle-upon-Tyne; Arthur John Turner, London Hospital; and Robert Joseph Weidner and Robert Joseph Willan, College of Medicine, Newcastle-upon-Tyne.

Bachelor in Medicine (M.B.).—Frank Tomisman Simpson, College of Medicine, Newcastle upon-Tyne.

Bachelor in Surgery (B.S.).—Sidney Herbert Hawley, M.D., B.Sc., D.P.H., Birmingham University.

Bachelor in Hygiene (B.Hy.).—John Wilson Howard Morrison, M.B., B.S. Durh.; Henry Renny, M.D., B.S., D.P.H. Durh.; and Herbert James Slade, M.B., B.S. Durh., M.R.C.S., L.R.C.P.

Diploma in Public Health (D.P.H.).—James Alexander Mitchell, M.B., Ch.B. Glasg.; John Wilson Howard Morrison, M.B., B.S. Durh.; and Herbert James Slade, M.B., B.S. Durh., M.R.C.S., L.R.C.P.

UNIVERSITY OF OXFORD.—The degree of D.M. has been conferred on Cyril Ogle, M.A., M.B., B.Ch., Trinity College, F.R.C.P.—The electors will proceed to the election of a Sibthorpian Professor of Rural Economy on Saturday, June 9th. Candidates are requested to send in their applications on or before May 19th to the registrar of the University, from whom all particulars may be obtained. Among the conditions is the following: "The Sibthorpian Professor of Rural Economy shall lecture and give instruction on the scientific principles of Agriculture and Forestry, including the Pathology of Plants.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—A meeting of the Fellows will be held on Saturday, June 9th, at 1 o'clock, to receive the annual report of the council. A meeting will also be held on Monday the 11th, at 1 o'clock, pursuant to the provisions of the charters, to elect a president, vice-president, council, and honorary secretary of the College for the ensuing year. Fellows who may desire to have their names printed on the list of candidates for office should signify their wish by letter to the Registrar at the College on or before Wednesday, May 30th.—At a meeting of the President, Vice-President, and Council held on May 1st the following examiners were elected. Court "A," for Conjoint Licence, Diploma in Public Health, and preliminary. Anatomy: Mr. Alexander Fraser and Dr. Bertram C. A. Windle. Surgery: Mr. Alexander Blaney, Mr. F. Conway-Dwyer, Mr. John Dundon, and Mr. Richard Lane-Joynt. Pathology and Bacteriology: Mr. Arthur Hamilton White. Midwifery and Gynæcology: Mr. Frederick W. Kidd. Biology: Mr. John J. Burgess. Ophthalmology: Mr. Arthur H. Benson and Mr. Herbert C. Mooney. Sanitary Law and Vital Statistics: Mr. Edward Francis Stephenson. Languages: Mr. L. J. Woodrooffe. Mathematics, Physics, Dictation, and English Essay: Mr. J. W. Tristram. Court "B," Fellowship, Licence in Surgery (for registered practitioners), Licence in Midwifery (for registered practitioners), and Licence in Dental Surgery. Anatomy: Mr. Patrick Joseph Fagan and Mr. Alexander Fraser. Surgery: Mr. Alexander Blaney, Mr. F. Conway-Dwyer, Mr. Thomas E. Gordon, and Mr. Richard Lane-Joynt. Pathology and Bacteriology: Mr. Leveson Gower Gunn and Mr. Arthur Hamilton White. Midwifery and Gynæcology: Mr. Frederick W. Kidd. Chemistry and Physics: Mr. Edwin Lapper and Mr. Robert J. Montgomery. Dental Surgery and Pathology: Mr. George M. P. Murray and Mr. William G. Story. Mechanical Dentistry: Mr. Kevin E. O'Duffy and Mr. Daniel L. Rogers.

THE ANNUAL DINNER OF THE ROYAL SANITARY INSTITUTE.—The annual dinner of the Royal Sanitary Institute was held at the Langham Hotel, Portland-place, London, W., on May 9th, the Duke of Northumberland, K.G., the President of the institute, being in the chair. Among those present were Colonel J. Lane Notter, R.A.M.C. (retired) (the chairman of the council), Sir Francis Sharp Powell, Bart., M.P., and Sir Alexander Binnie (vice-presidents of the Institute), Sir Lauder Brunton, F.R.S., Sir Shirley F. Murphy, Surgeon-General A. H. Keogh (Director-General of the Army Medical Service), Sir R. Melvill Beachcroft (chairman of the Metropolitan Water Board), the Rev. Canon Barker, and Mr. Evan Spicer, J.P. (the chairman of the London County Council). After the usual loyal toasts had been given from the chair by the President, Sir Lauder Brunton proposed "The Navy, Army, and Auxiliary Forces," and referred to the work of Edward Parkes and Colonel Lane Notter. The toast was responded to by Surgeon-General Keogh, who insisted that the first duty of the medical service of the Army was the prevention of disease. He regarded the fact that 40,000 cases of enteric fever occurred in the late South African war as disgraceful and further dealt with the question of the water-supply to the army in war. It was impracticable to boil all the water used by the troops but he regarded the water problem as on the eve of solution by the application of the Slack and Brownlow filter to the service watercart. The toast of "The Houses of Parliament" was given in a witty speech by Sir Melvill Beachcroft and responded to by Sir Francis Sharp Powell, who paid a tribute to the earnest work of the Labour Members in the new Parliament. The Duke of Northumberland in proposing the toast of "The Royal Sanitary Institute" spoke of the cold douche which had been applied to the question of vaccination and of his personal disappointment at the attitude of the authorities towards re-vaccination which he regarded as a necessity. He also referred to the growing interest in tropical medicine and spoke in eulogistic terms of the work of the schools of tropical medicine in London and Liverpool. The toast was responded to by Colonel Lane Notter. "The Health of the Visitors" was proposed by Sir Alexander Binnie, President of the Institute of Civil Engineers. It was responded to by Mr. Evan Spicer, who referred in grateful terms to the assistance afforded by the institute to the London County Council in sanitary matters. The proceedings

concluded with the toast of "The Chairman," proposed by Colonel Lane Notter.

UNIVERSITY OF CAMBRIDGE.—Mr. F. Gayner, M.B., B.C., has been elected to a Research Scholarship in connexion with the committee for the Study of Special Diseases.

THE BOLINGBROKE HOSPITAL.—The Princess Royal, who was accompanied by the Duke of Fife, visited Wandsworth on May 5th to lay the foundation-stone of the new buildings of the Bolingbroke Hospital. On their arrival the Princess Royal and the Duke of Fife were received by Canon Erskine Clarke, chairman of the board of governors; Mr. Everard G. Thorne, vice-chairman; Dr. H. Campbell Thomson (physician), Mr. D'Arcy Power (senior surgeon), Mr. Gerald S. Hughes (medical superintendent), and the reception committee. The ceremony, which was a brief one, was preceded by prayers said by the Bishop of Kingston. The Princess Royal laid the stone with the usual formalities, being assisted in doing so by the architects, Mr. K. D. Young and Mr. Henry Hall. After the stone-laying the Princess received a number of purses. At the close of the ceremony the Princess paid a visit to the wards of the hospital. She talked graciously to many of the patients and in the children's ward she distributed to the little patients roses from the bouquet which had been presented to her by Miss Russell, the matron.

QUEEN VICTORIA'S JUBILEE INSTITUTE FOR NURSES.—In the report for 1905 submitted to Her Majesty by the council of Queen Victoria's Jubilee Institute for Nurses it appears that the council was obliged last year, in order to meet the necessary expenditure, to withdraw £1600 from capital. But the special committee initiated by Queen Alexandra and organised by Lady Cadogan will, it is hoped, be able to make good the deficiency. The analysis of expenditure shows that nearly half the income is devoted to the training of nurses and another quarter to inspection and superintendence in order to maintain the standard of nursing work throughout the country. The institute's sphere of work is extending year by year and the Queen's nurses have in their hands an unlimited influence for good and it is now evident that they are in fact a social power for the improvement and education of those among whom they work. The Queen's nurses have been the pioneers in the work of nursing in the elementary schools which is now being developed very rapidly and has come to be recognised as a necessary factor in the success of any medical inspection of school children. The total number of associations now affiliated to the institute employing Queen's nurses is 694 and the number of Queen's nurses employed on Jan. 1st was 1313. Both figures show a considerable increase on the previous year.

DONATIONS AND BEQUESTS.—The Drapers' Company has sent a cheque for £10,000 to the fund for the removal of King's College Hospital to South London. The Skinners' Company has sent £250, being the first instalment of its promised donation of £500; and the Leathersellers' Company has contributed 100 guineas.—Among the donations received by the committee of the General Lying-in Hospital, York-road, Lambeth, towards the special fund for enlargement to meet the requirements of King Edward's Hospital Fund are the following: Lord Lister, president of the hospital, £100; Lord Iveagh, £50; collected by nurses and friends, £58.—By his will Mr. George Vye of Ramsgate has bequeathed £1000 to the Seamen's Infirmary and General Hospital, Ramsgate, and £250 to the Ramsgate Dispensary.—By the will of Mrs. L. B. E. Waterman £1500 are bequeathed to the Royal United Hospital, Bath, to endow a bed and a cot in memory of "General Edmund Frederick Waterman and Louisa Butler Eliza Waterman, his wife."—The late Mr. Charles Edwin Trimmer of Farnham has bequeathed £3000 to Trimmer's Cottage Hospital, Farnham, and £300 to the Royal County Hospital, Guildford.—The late Mr. J. Oliff has bequeathed £600 to the funds of the Bristol Royal Infirmary.—Under the will of Mrs. Mary Seaton, of Chorlton-on-Medlock, Manchester, £1000 are bequeathed to the Northern Counties' Home and Hospital for Incurables; £500 to endow a cot for crippled and incurable children in the Bethesda Home, Manchester, to be known as the "Arnold" cot; and £500 to endow a similar cot, to be known as the "Mary Seaton" cot.—Professor Lionel Smith Beale, F.R.S., has by will bequeathed £100 to King's College and £100 to King's College Hospital.—By the will of Mrs. Sarah Code, of Cornwall, £500 are bequeathed to the Penzance Infirmary and Dispensary, £200 to the Hospital for Sick Children, Great Ormond-street, London, and £200 to the Royal Hospital for Incurables, Putney.

CENTENARIANS.—The death occurred at Pontrhydyfen, Glamorganshire, on April 24th, of Mrs. Mary Thomas who was 105 years of age, having been born at Carmarthen on March 25th, 1801.—Mr. J. Carne, the parish clerk of St. Columb Minor, Cornwall, celebrated the 100th anniversary of his birthday on May 3rd. He was entertained at a public tea in the schoolroom in the evening and was afterwards presented with an oak armchair on which was an inscription recording the fact that it was given to him on his hundredth birthday.

ROYAL DEVON AND EXETER HOSPITAL.—On May 4th Mrs. Nosworthy of Dawlish formally opened the new operating theatre at the Royal Devon and Exeter Hospital. There was a large attendance, including the Countess of Iddesleigh and Sir Charles and Lady Follett. The operating theatre, which is a gift from Mrs. Nosworthy to the hospital, had been fitted up according to modern requirements and was erected at a cost of £1800. Dr. J. Delpratt Harris, the senior honorary surgeon to the hospital, in a short speech thanked Mrs. Nosworthy for her generosity and on behalf of the surgical staff presented her with a framed tracing of the foundation-stone of the institution, the position of which was only quite recently discovered. It bore the inscription: "Devon and Exeter Hospital; founded A.D. 1741."

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of the above society was held on May 3rd at 11, Chandos-street, Cavendish-square, W., Mr. Willett, Vice-President, being in the chair.—The proceedings were opened by the Chairman referring to the great loss which the society had sustained by the death of the late President, Mr. Christopher Heath, who had always taken the greatest interest in the society's welfare and had been a most regular attendant at its meetings. A formal motion of condolence was passed. A vote of thanks was moved to the editors of the medical journals for their courtesy in inserting the reports of the society from time to time; this was carried unanimously. During the year six new members were elected, five members died, and two resigned. At the end of the year there were 148 life members and 149 subscribers. Four widows were elected and two widows died, there being 54 in receipt of pensions at the end of the year. Three orphans were elected, making a total of 19 in receipt of pensions. The income derived from the invested funds of the society was £3098 19*s.* 2*d.*, from subscriptions £300 6*s.* 2*d.*, from donations £23 1*s.*, from life subscriptions £134 8*s.*, and a legacy of £250 had been received during the year. £3241 had been distributed among the annuitants of the charity. The working expenses of the society for the year were £248 16*s.* 7*d.* Dr. George Fielding Blandford was unanimously elected President and Dr. F. de Havilland Hall one of the treasurers. Six directors were elected in place of the six senior who retired according to the by-laws.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Vaccination Prosecutions.

Mr. PICKERSGILL has introduced a Bill in the House of Commons to provide that no prosecution under the Vaccination Acts shall be commenced without the authority of the guardians.

Grievances of Poor-Law Medical Officers.

The grievances of Poor-law medical officers in Scotland were brought before the Secretary for Scotland by an influential deputation on May 8th. Mr. W. L. MUIR of Glasgow read a statement on behalf of the Scottish Poor-law Medical Officers' Association which may be summarised as follows: "On the passing of the Local Government (Scotland) Act, 1894, the membership of parish councils was thrown open to all ratepayers, with the result that, in the small outlying parishes, chiefly in the Highlands and islands, many members of parish councils have been elected who are not socially or intellectually fit to be intrusted with the absolute control of their medical officers. The result has been a very serious increase in cases of injustice towards

medical officers. Medical officers have been dismissed from their appointments for causes other than professional neglect or incompetence, in some cases from religious, political, or personal spleen, or from medical officers refusing to comply with orders which were quite outwith their duties as servants of the parish council. Compliance with some of the orders would have brought the medical officer under the ban of the General Medical Council, rendering him liable to be censured or even struck off the Medical Register. A large number of medical officers have thrown up their appointments in disgust owing to the petty annoyances to which they have been subjected, with the result that certain parish councils are in the market for new medical officers every few months, a condition of matters which is very detrimental from a public point of view, so far as the well-being of the inhabitants of those parishes are concerned. For some years this association has been urging the Local Government Board to promote legislation of such a character as would remove the grievances to which the Poor-law medical service are subject, on the following points:—1. An appeal to the Local Government Board in cases of unjust dismissal. 2. The right to order invalid diet to sick paupers without the right of veto on the part of inspectors of poor. 3. The granting of power to parish councils to the use parochial funds for building suitable dwelling houses for medical officers in places where such are required. 4. The granting of a suitable annual holiday at the expense of the parish council for medical officers in parishes where the greater part of the income is derived from the official salary. 5. The granting of a uniform fee of 21*s.* for each case of lunacy. 6. The granting of a suitable fee for midwifery, fractures, dislocations, or other special cases. The Departmental Committee of the Local Government Board, which held a most exhaustive inquiry into the medical relief of the poor, have recommended that the first three of our claims ought to be granted but have made no recommendation as to the last three claims. We understand a Bill has been drafted and only awaits a suitable opportunity to be brought before Parliament and passed into law. If such a Bill were passed into law we believe the Poor-law medical service would be contented. Much against the wish of our association we have been compelled to warn applicants against accepting parish council appointments where the parish council have dismissed or treated their medical officers in an unjust manner. This course of action has been beneficial. Almost no dismissals have taken place during the last two or three years. We do not mean to claim that in no case has a parish council dismissed its medical officer without just cause or found fault with him for neglect of his professional duties. Just causes for dismissal or censure must occur now and then, particularly when you consider that high class young medical men do not now apply for vacant appointments in the Highlands and islands, the more obnoxious of the parish councils only getting the 'flotsam and jetsam' of the profession to become their servants." The Secretary for Scotland was very sympathetic in his reply and he undertook, whilst not specifically coming under any pledge, to consult with the authorities of his department on the complaints made.

HOUSE OF LORDS.

TUESDAY, MAY 8TH.

Poisons and Pharmacy Bill.

The Standing Committee of the House of Lords on Tuesday, May 8th, considered this Bill, the object of which is to amend the law as to the sale of poisons and as to the Pharmacy Acts. Viscount CROSS presided and the Earl of CREWE was in charge of the Bill on behalf of the Government.

The following new sub-section to Clause 3 was, on the motion of the Earl of CREWE, added to the Bill:—

"The provisions of Section 16 of the Pharmacy Act, 1868, which enable the executor, administrator, or trustee of the estate of a deceased pharmaceutical chemist or chemist and druggist to continue his business so long as such business is *bond-fide* conducted by a duly qualified assistant, shall be construed as enabling such executor, administrator, or trustee to carry on the business, if and so long only as in every premises where the business is carried on the business is *bond-fide* conducted by a duly registered pharmaceutical chemist or chemist and druggist, as the case may be, and the name of the person by whom the business is so conducted in any premises is conspicuously exhibited in the premises."

Clause 4 of the Bill deals with the application of the Pharmacy Acts to companies and provides that companies who sell poisons and drugs must employ registered pharmaceutical chemists at all their premises where such business is carried on and must display the name of the registered chemist.

On this clause,

The Earl of CREWE moved several amendments, the object of which was to provide that the clause should apply to any body corporate whether a company registered under the Companies Acts or not.

Lord BELPER stated the opinion that the provision as to displaying the names of the chemists would cause a good deal of trouble, and he suggested that something should be done to obviate that.

The Earl of CREWE recognised that the point was of some importance, and he preferred to deal with it in the whole House rather than in this committee.

The amendment was adopted, as was also another moved by the Earl of CREWE, providing that in Scotland anything which under Clause 4 would be an offence if committed by a body corporate should be an offence if committed by a firm or partnership.

Lord LAWRENCE at some length complained that Ireland was excluded from the operation of the Bill.

The CHAIRMAN said that that was hardly a point for the Standing Committee. It should be brought up in the House itself.

The Earl of CREWE said he might be allowed to explain that originally Ireland was included in the Bill. That, however, had been strongly objected to in various quarters on the ground that the case of Ireland had not been heard at the preliminary inquiry before the Bill was drafted.

The Bill was then ordered to be reported to the House.

HOUSE OF COMMONS.

WEDNESDAY, MAY 2ND.

No Suitable Candidate.

Mr. SLOAN asked the Postmaster-General whether arrangements would be made and when for the appointment of an official medical officer in connexion with the Downpatrick Post Office.—Mr. SYDNEY BUXTON replied: Up to the present a suitable candidate for the post in question has not been forthcoming.

Fruit Growing on Sewage Farms.

Mr. H. H. MARKS asked the representative of the President of the Board of Agriculture whether any action had been taken, or was contemplated, with reference to the recommendation of the departmental committee on the fruit industry that an inquiry should be instituted into the alleged practice of growing fruit on sewage farms and the effect of such a practice on the public health.—Sir E. STRACHEY replied: We have been in communication with the Local Government Board on this subject and we are informed that no instance of disease attributed to fruit grown on sewage farms is known in the Medical Department of the Board. The information in the possession of the Board indicates that fruit is seldom grown on sewage farms in this country and there is no confirmation of the suggestion that injury to health is caused by fruit so grown.

Vaccination of Teachers.

Mr. RAMSAY MACDONALD asked the President of the Board of Education whether he could allow local education authorities to use their discretion regarding the vaccination of teachers.—Mr. BIRRELL answered: I am proposing to insert in the Board's regulations a provision under which vaccination will not, so far as the Board is concerned, be required of any intending teacher who may state to the Board when applying for recognition that he has conscientious objections to being vaccinated. It will rest with the local authority to decide in each case whether they shall employ such a teacher. The Board will keep a record of any teachers who have not been vaccinated.—Mr. ARNOLD-FORSTER asked whether a similar discretion existed in other civilised countries in the world.—Mr. BIRRELL replied: I am not a judge of civilisation.

THURSDAY, MAY 3RD.

Dangers of Celluloid Articles.

Mr. T. R. BETHELL asked the Secretary of State for the Home Department whether his attention had been drawn to accidents arising from the use of celluloid hair combs; and whether, having regard to the inflammable nature of this material, he would consider the advisability of introducing legislation to secure the marking of these articles in such a way that the public might know the danger to which they were exposed by their use.—Mr. GLADSTONE answered: I am aware that a certain number of accidents have arisen from this cause, especially when impure celluloid is used. The question of putting marks upon materials of all sorts that are likely to be dangerous is a very wide one and I do not see my way to deal specially with celluloid but I hope the question will call attention to the possible danger of these articles and will put the public on their guard.

Pathogenic Bacteria in London Water.

Mr. B. S STRAUS asked the President of the Local Government Board whether, with the view of improving the London water-supplies, he would consider the advisability of compelling, by legislation or otherwise, the use of the process now in existence which was capable of dealing satisfactorily with contaminated water by completely destroying all pathogenic bacteria remaining in the supply after sand filtration.—Mr. JOHN BURNS answered: I am not sure what is the particular process to which my honourable friend refers. The Metropolitan Water Board has before it the question of the research work to be undertaken with a view to determining whether the present system of purification of the London water cannot be still further improved and every practicable means of obtaining the best results will no doubt be thoroughly investigated. The matter does not appear to me to be one for compulsory action by legislation or otherwise at the present time.

Inoculation against Enteric Fever.

Mr. EUGENE WASON asked the Secretary of State for War whether he had yet received the report of the committee appointed to consider the question as to the value of inoculation against enteric fever, and, if so, would he lay it upon the table of the House?—Mr. HALDANE replied: The final report of the antityphoid inoculation committee has not yet been received. An interim report has, however, been received and the recommendation contained therein, that the practice of voluntary inoculation against enteric fever should be resumed, has been approved by the Army Council. The voluntary inoculation of men proceeding abroad is now being carried out and arrangements are being made for those now serving in India. I will lay this report on the table.

FRIDAY, MAY 4TH.

Malarial Fever.

Major SEELY asked the Under Secretary of State for the Colonies whether he could grant a return showing the measures taken in the Crown Colonies and Protectorates to eradicate malarial fever and the results as shown by the health statistics of the inhabitants.—Mr. CHURCHILL answered: The honourable Member's wish has been noted and the Secretary of State is instructing the advisory board for the Tropical Disease Research Fund to consider how it can best be met.

MONDAY, MAY 7TH.

Registrars and Deaths.

Mr. CHARLES ROBERTS asked the President of the Local Government Board whether any order was issued in 1904 prohibiting the registrars

of births, deaths, and marriages from communicating particulars of the deaths occurring in their districts for publication in the local press; and whether, if such an order was now in force, there would be any objection to rescinding it.—Mr. BURNS answered: There was no new order on this subject in 1904, but in that year the Registrar-General issued a circular with a view to the stricter observance of a regulation which had long been in force and which forbids a registrar of births and deaths to publish any statement of facts respecting the registration of births or deaths without the permission of the Registrar-General. I am not prepared to interfere with the discretion of the Registrar-General in the matter.

The Prime Minister and Infantile Mortality.

Mr. GODFREY BARING asked the First Lord of the Treasury whether his attention had been called to that passage in the report of the Registrar-General dealing with the high death-rate amongst infants; and whether he had considered the desirability of appointing a Royal Commission to inquire into infantile mortality and its causes.—Sir HENRY CAMPBELL-BANNERMAN said: My attention has been called to the part of the report referred to. The subject of infantile mortality and its causes is receiving the careful consideration of the Government but we do not see our way at present to the appointment of a Royal Commission to inquire into this most important subject.

Charge for Death Certificates.

Mr. SUMMERBELL asked the President of the Local Government Board whether . e could give the number of death certificates issued to relatives of deceased members of friendly collecting societies during the period Jan. 1st to March 31st, 1906; the number of death certificates issued to relatives of deceased members of trade unions during the period Jan. 1st to March 31st, 1906; the number of death certificates issued to relatives of deceased assurants in the assurance companies during the period Jan. 1st to March 31st, 1906; and whether he would state why a uniform charge of 1s. or 1s. 3d. per certificate of death should not apply equally in respect to claims on assurance companies as to claims on friendly collecting societies.—Mr. BURNS answered: I am informed by the Registrar-General that the certificates referred to are issued by local registrars only and that no returns of the numbers of such certificates are, or ever have been, received at the Central Office. He further states that if returns were required they would have to be specially collected from more than 2000 registrars in England and Wales alone and when obtained the certificates could not be classified according to the descriptions in the question. He adds that the value of such a return would not be commensurate with the trouble and expense of its preparation. As regards the last part of the question, I may point out that the charges referred to are fixed by statutory provisions which do not apply to assurance companies.

TUESDAY, MAY 8TH.

Enteric Fever at Darenth.

Mr. PIKE PEASE asked the President of the Local Government Board whether his attention had been called to the successive outbreaks of enteric fever during the past two years at the Metropolitan Imbecile Asylum at Darenth, Kent, traceable to broken drains and to the fact that the drains of this asylum were used to irrigate portions of the inclosure and that the contents finally disappeared into the chalk upon which the asylum stood; and whether, seeing that this inclosure was within five furlongs from the Darenth pumping-station of the Metropolitan Water Board, and at a higher level, he would state what steps he proposed to take.—Mr. BURNS replied: I am aware that there have been occurrences of enteric fever at the asylum during the past two years and that the first of them was supposed to be due to a defect in the drainage. It is the case that the drainage of the asylum is disposed of by irrigation on the asylum farm but I understand that the land is at a considerable distance from the Darenth well and that the local conditions are such that there would appear to be no risk of the well becoming polluted from anything that may happen at the asylum. I will, however, communicate further with the Metropolitan Water Board on the subject.

BOOKS, ETC., RECEIVED.

AMERICAN CLIMATOLOGICAL ASSOCIATION (Secretary, Dr. GUY HINSDALE, Hot Springs, Virginia, U.S.A.).
Transactions of the American Climatological Association. For the year 1905. Vol. XXI. Price not stated.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.
On Carbohydrate Metabolism. (A Course of Advanced Lectures in Physiology delivered at the University of London, May, 1905). With an Appendix on the Assimilation of Carbohydrate into Proteid and Fat. Followed by the Fundamental Principles, and the Treatment, of Diabetes Dialectically Discussed. By F. W. Pavy, M.D., LL.D., F.R.S., Honorary Physician to King Edward VII. Hospital, Consulting Physician to Guy's Hospital. Price 6s net.

CLARENDON PRESS, Oxford.
Handbook of Anatomy for Art Students. By Arthur Thomson, M.A., M.B., Professor of Anatomy in the University of Oxford. Third edition. Price 16s. net.

CONSTABLE, ARCHIBALD, AND COMPANY, LIMITED, 16, James-street, Haymarket, London, S.W.
Physiology of the Nervous System. By J. P. Morat, of the University of Lyons. Authorised English Edition. Translated and edited by H. W. Syers, M.A., M.D. Cantab., Physician to the Great Northern Central Hospital. Price 31s. 6d. net.

HOEBER, PAUL B., 69, East 59th Street, New York, U.S.A.
Uric Acid. The Chemistry, Physiology, and Pathology of Uric Acid, and the Physiological Important Purin Bodies. With a Discussion of the Metabolism in Gout. By Francis H. McCrudden. Price not stated.

OWEN, A. AND CO., 28, Regent-street, London, S.W.
Darwinism and the Problems of Life: a Study of Familiar Animal Life. By Conrad Guenther, Ph.D., Professor at the University, Freiburg in Baden. Translated from the third edition by Joseph McCabe. Price 12s. 6d.

PENTLAND, YOUNG J., Edinburgh and London.
Text-book of Anatomy. Edited by D. J. Cunningham, F.R.S., M.D. Edin. et Dubl., D.Sc., LL.D. Glasg. et St. And., D.C.L. Oxon., Professor of Anatomy, University of Edinburgh. Second and thoroughly revised edition. Price, cloth, 31s. 6d. net.

W. B. SAUNDERS COMPANY, Philadelphia and London.
A Text-book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College, Physician to the Medico-Chirurgical Hospital, Philadelphia. Seventh edition, thoroughly revised. Price 24s. net
A Treatise on Surgery. By George Ryerson Fowler, M.D., Brooklyn, New York City, Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York. Vol. I. (In two volumes.) Price 3 guineas per set, net.

WILLIAMS AND NORGATE, 14, Henrietta-street, Covent Garden, London. (For the Committee of the Liverpool School of Tropical Medicine.)
Liverpool School of Tropical Medicine. Memoir XVIII. Reports of the Expedition to the Congo, 1903-5. By the late J. Everett Dutton, M.B. Vict., and John L. Todd, B.A., M.D., C.M. McGill. With Descriptions of Two New Dermanyssid Acarids by Robert Newstead, A.L.S., F.E.S., &c., and the Anatomy of the Proboscis of Biting Flies by J. W. W. Stephens, M.D. Cantab., and Robert Newstead, A.L.S., F.E.S., &c. March, 1906. Price 7s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

ANDERSON, A. G., M.B., Ch.M. Sydney, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

BULKELEY, L. A. H., M.B., B.S. Durh., has been appointed Junior House Physician at the Royal Infirmary, Newcastle-on-Tyne.

CARTER, F. BOLTON, M.D., M.S. Lond, F.R.C.S. Eng., has been appointed Assistant Surgeon to the Leicester Infirmary.

CUNNINGHAM, H. B., M.B., B.S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne.

DICK, W., L.R.C.S., L.R.C.P., has been appointed House Surgeon at the Children's Hospital, Bradford.

DUFF, DONALD, F.R.C.S. Edin., F.F.P.S. Glasg., has been appointed Extra Dispensary Surgeon to the Glasgow Royal Infirmary.

HEDDEN, RICHARD, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed to the Medical Charge of Troops in the Honiton (Devon) Camp.

JONES, BERESFORD, M.B., B.S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne

LEE, H. F., M.B., C.M. Edin., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

LUNN, W. E. C., M.B., B.S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne.

SHAW, CHARLES J., M.B., M.R.C.P. Edin., has been appointed Senior Assistant Medical Officer at the Royal Asylum, Sunnyside, Montrose.

STACK, EDWARD HUGH EDWARDS, M.B., B.C. Cantab., F.R.C.S., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Orthopædic Hospital and Home for Crippled Children, Bristol.

TATE, E., M.B., B.S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne.

WILLAN, R. J., M.B., B.S. Durh., has been appointed House Surgeon at the Royal Infirmary, Newcastle-on-Tyne.

WORGER, RICHARD GEORGE, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Radstock District (Somerset).

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE.—Examination of Candidates for not less than Forty Commissions.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80, with fees.

BIRKENHEAD UNION INFIRMARY, WORKHOUSE, AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant. Honorarium at rate of 52 guineas per annum.

BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House Surgeon, unmarried. Salary £100 per annum, with apartments, board, attendance, fire, and gas.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Honorary Assistant Physicians.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

COLCHESTER, ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Physician. Salary £50 per annum, with board, washing, and residence.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Dental Surgeon.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

FAREHAM, HANTS COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £175 per annum, with apartments, board, washing, and attendance.

GATEFORTH, NEAR SELBY, LEEDS TUBERCULOSIS ASSOCIATION SANATORIUM.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

GLASGOW SAMARITAN HOSPITAL FOR WOMEN.—House Surgeon.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Surgeon to the Throat and Ear Department.

HARTSHILL, STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL.—Junior House Surgeon. Salary £50 per annum, with board, apartments, and washing.

HOSPITAL FOR WOMEN, Soho square, W.—Surgeon Dentist.

LONDON HOSPITAL, Whitechapel, E.—Surgical Registrar.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £50 per annum, with board and residence.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board and residence.

NEW HOSPITAL FOR WOMEN.—House Physician, Resident Medical Officer, Senior Obstetric Assistant Anæsthetist, and Clinical Assistant.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, residence, and washing.

PORTSMOUTH BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £150, rising to £200, with board, lodging, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Assistant to the Clinical Pathologist (salary £50 per annum); also Junior Obstetric Assistant and Assistant Anæsthetist. All females.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, West Strand, W.C.—Clinical Assistants. Also House Surgeon for six months. Honorarium £25.

ST. MARY'S HOSPITAL, Paddington, W.—Surgeon.

SHEFFIELD CHILDREN'S HOSPITAL (EAST-END BRANCH).—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board and lodging.

SHEFFIELD, ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £65 per annum, with board, lodging, and washing. Also Junior House Physician. Salary £60 per annum, with board, lodging, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum, with board, apartments, washing, and attendance.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

TOTTENHAM HOSPITAL, London, N.—House Surgeon. Salary £90 per annum, with residence, board, and laundry.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Surgeon to In-patients. Also House Surgeon.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Surgeon.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, and apartments.

WINWICK, WARRINGTON, LANCASHIRE COUNTY ASYLUM.—Locum Tenens Medical Officer for four to five months. Salary 4 guineas per week, with apartments, board, attendance, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Cavendish, in the county of Suffolk.

Births, Marriages, and Deaths.

BIRTHS.

JACKSON.—On May 7th, at Woodhouse, Bakewell, the wife of R. Houlton Jackson, M.R.C.S., L.R.C.P., of a daughter.

PORTER.—On May 9th, at The Limes, Berkhamsted, the wife of Charles R. Porter, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

WILLIAMS.—On May 5th, at Queen Anne-street, Cavendish-square, the wife of Campbell Williams, F.R.C.S., of a son.

WILSON.—On April 29th, at Tregea House, Penzance, the wife of W. R. Wilson, L.R.C.P. Irel., L.R.C.S. Irel., L.S.A. Lond., of a daughter.

MARRIAGES.

COTTER—MUSSON.—On April 7th, at St. Peter's Church, Fulham, by the Rev. Canon Townend, George Edmond Wentworth Cotter, M.A., M.B., B.C. Camb., M.R.C.S., L.R.C.P. Lond., son of the late Duncan Donald Darrock Cotter, Officer 6th Foot, County Cork, Ireland, to Muriel Isobel, youngest daughter of Samuel James Musson, of Upper Norwood.

THURNELL—ARMSTRONG.—On April 30th, at St. Mark's Church, Rosherville, Herbert Leslie Thurnell, M.A. Cantab., M.D., to Margaret Mary, eldest daughter of the late John Christopher Armstrong, Surgeon, Eng., and of Mrs. Armstrong, of Springfield, Gravesend.

DEATH.

BAINES.—On May 5th, at 11, Cranley-place, S.W., Matthew Baines, Esq., V.D., M.D. Lond., Knt. of Grace of the Order of St. John of Jerusalem.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

AMERICAN ADVERTISEMENTS.

Mark Twain once wrote a small article entitled "Hogwash" in which he girded at certain forms of American journalism. Latterly American ways have affected British journalism, more especially in the advertisement department, and "hogwash" results. A flagrant instance of this now lies before us in the shape of a two-column advertisement which appeared in the *Daily News* of April 24th. It is headed "Famous Medical Consultations" and is "specially written by Howard Langdale." After referring to the illness of the "late Vice Reine" of India, the illness of the King in the Coronation year is mentioned and also that of the late Emperor Frederick. Then comes the impassioned personal note with which the quack of to-day lures his victim on. "You to-day who are suffering, you whom illness has claimed for your own, this is not your natural state. ..... The remedy you need, the power that will bring the blossoms of hope blooming to your eyes, is at hand." The remedy, we find lower down, is Page Woodcock's pills. "Every box contains concentrated health and joyous relief." In another part is the following: "Page Woodcock's pills positively cure indigestion and all liver troubles, no matter of how long standing; also biliousness, spasms, constipation, severe headaches, heartburn, anæmia, and female ailments, as over 50 years' experience has proved. ....." Now this statement is a deliberate untruth and Page Woodcock, Limited, must know this perfectly well; and so should the advertisement manager of the *Daily News* if he exercises any control over his advertisements. Not that the *Daily News* is a bit worse in the matter of deceiving advertisements than certain other journals and, above all, than the popular sixpenny monthly magazines, but such an advertisement is infinitely more demoralising than the result of a race, which the *Daily News* will not print.

The article, we should add, is illustrated with pictures which are supposed to be portraits of Lady Curzon, Sir F. Laking, Sir F. Treves, Sir Thomas Barlow, Sir Morell Mackenzie, and Page Woodcock. That of Lady Curzon is no concern of ours but those of the three living medical men would afford excellent grounds for a libel action. However, we suppose that the stuff from which we have quoted appeals to a large class of mind and fills the pockets of the quacks who put it forth. The quack, as was his prototype in Eden, is more subtle than any beast, but we still await the time when he shall be called upon to pay a heavy licence for the right to deceive.

TWO PRESENT-DAY EVILS IN PARODY.

AMONG the results of the *Westminster Gazette's* weekly prize competitions are the following parodies which tersely state the truth with regard to two evils, one the result of ignorance and the other the result of knowledge—that is to say, knowledge of the patience and long-suffering of the public and the tortoise-like movement of the law where public welfare is concerned:—

THEY WERE SEVEN.

"I met a little baby-boy
Who, in a 'pram' propelled,
Gnawed on a rich pork-pie with joy—
And having gnawed, he yelled.

His sister stopped and bought some gin,
But ere it could go down
I stayed her, crying 'What a sin!'—
And met a wondering frown.

'Sisters and brothers this way fed,
How many of them die?'
'We've buried seven in all,' she said,—
'I'm not surprised,' quoth I."

"I caught an 'Arrow' passing the Square,
It seemed to go—well, anywhere;
But, though swiftly it flew, the smell
Somehow followed it fairly well!"

A BREACH OF TRUST.

To the Editors of THE LANCET.

SIRS,—The vaccination inspector of the Local Government Board visited me a short time ago. In the course of showing him specimens of my work we visited a woman lately come to the village. After examining my vaccination he asked if an older child had been vaccinated. The mother replied that it had by Dr. X—— of Y——, and she added that she had asked that it should be vaccinated in only two places, but Dr. X—— had replied that he was bound to vaccinate in four places, but that *only two places would take*. The inspector remarked that Y—— was in his district and made careful notes. It was evident from the arm that only two places had taken.

I am, Sirs, yours faithfully,

May 6th, 1906. O. C. J.

"A WARNING."

To the Editors of THE LANCET.

SIRS,—The letter of complaint by the "Victim" in THE LANCET of April 28th is very misleading to the British medical public as regards the inclusion of the Indians within the same brackets as the Eurasians. In the first place, it is a mortal offence to the Eurasian to be classed in any way with the Indian. The term "Eurasian" (though there are many exceptions) is generally understood to be in India the progeny of the Europeans with the lowest classes of India. So, fortunately or not, the Indians of the better classes have nothing in common with the Eurasians as a class. There are plenty of Indians as medical practitioners and assistants in Britain and they have been a great success here. It will be a great pity if their interests should suffer for the reckless conduct of a "Eurasian." Again, we must confess we do not understand what the "Victim" means when he says: "To revenge himself upon any ..... in a manner quite Eastern in its completeness." In his great distress the poor "Victim" forgets that it was the Eastern prophets who first taught the world to do good for evil but not take delight in revenge. We trust very sincerely that the facts of the "Victim" will be proved and this "half-white" Othello's occupation will be gone. There are good men and bad men all the world over, even in Britain as well as in India, and the medical profession, calling itself the noblest profession in the world, must learn to discriminate—in the twentieth century at least.

We remain, Sirs, yours faithfully,

D. S. RAMACHANARA RAO, M.A., M.B., Ch.B. Edin.
R. N. COOMLAWALA, L.R.C.P. Edin., D.P.H. Cantab.

Coram-street, W.C., May 9th, 1906.

OXYGENATION OF REBREATHED AIR.

THE *Times Engineering Supplement* of May 9th states that the Niagara Electro-Chemical Company is manufacturing a form of peroxide of sodium which has the property of emitting free oxygen when brought into contact with moist carbon dioxide. An experiment has been made by shutting a man up in an air-tight box, two pounds of this peroxide being inclosed in the box with him. The size of the box was such that the air in it would have sufficed him for not more than 20 minutes but the sodium peroxide enabled him to remain in the box without any sort of detriment for six hours.

AN UNFORTUNATE CIRCULAR.

To the Editors of THE LANCET.

SIRS,—Mr. J. Munro Roger seems to have entirely missed the point his letter of April 30th. I never supposed that Dr. Moyle O'Connor had any previous knowledge of the intention to issue the obnoxious circular, but permit me to point out that it is one thing to announce in the descriptive pamphlet of the advantages of a block of flats that there is a doctor residing upon the premises but quite another to issue a circular to every tenant pointing out that a particular medical man has been officially appointed physician to the estate, and although that course may have been adopted in other cases "two wrongs do not make a right."

Yours very sincerely,

May 6th, 1906. YOUR PREVIOUS CORRESPONDENT.

MOTOR CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—Would any of your readers who have possessed, and thoroughly tested the cost of the running of, a car as described, minus the wages of driver, kindly supply me with the desired information. What would be the cost of the upkeep of a car for a year, going, say, on the average 20 miles a day on good hilly country roads, the car being a 12 to 16 horse-power, four-cylinder, French make, weight about 18 cwt., and seated for four people, tyres 810 × 90 m.

I am, Sirs, yours faithfully,

May 5th, 1906 $Fe_2O_3(H_2O)_2$.

Phosphates.—1. Apocodeine hydrochloride is used in France to some extent as a laxative. The passage as printed is correct. 2. Iodoacetone is a solution of iodine in acetone of the strength of 1 in 5 or 1 in 10.

ERRATUM.—In Dr. Gordon Sharp's letter, headed "100 Consecutive Cases of Measles without Chronic Middle-ear Disease," which was published on p. 1280 of THE LANCET of May 5th, the words "half a fluid drachm of solution of ammonia" should read "half a fluid drachm of solution of *acetate* of ammonia."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Bolton Journal and Guardian, Westminster Gazette, Rotherham Advertiser, The Down Recorder, Sheffield Telegraph, Stafford Sentinel, Sheffield Independent, Lancashire Post, East London Advertiser, Evening Standard, Cork Examiner, Birmingham Gazette, Dublin Express, Hammersmith Observer, Manchester Courier, Dublin Evening Mail, Bexhill Chronicle, Newcastle Evening Chronicle, Scotsman, Manchester Guardian, Aberdeen Journal, Hereford Times, Dundee Advertiser, Belfast News Letter, Aberdeen Weekly Free Press, Bradford Observer Budget, Belfast Whig, Isle of Man Weekly Times, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 10th, 1906.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks
May	4	29·88	S.W.	0·02	96	60	50	50	54	Cloudy
,,	5	30·20	S.W.	...	114	63	45	47	52	Fine
,,	6	30·13	S.W.	...	69	56	50	51	54	Cloudy
,,	7	30·15	S.W.	...	86	65	50	55	56	Overcast
,,	8	30·01	S.E.	...	116	76	51	56	61	Fine
,,	9	29·80	N.	...	92	63	57	55	59	Cloudy
,,	10	29·78	N.E.	...	57	49	46	46	48	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynecological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (14th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M. General Meeting. 8.30 P.M. Papers:—Mr. W. H. Battle: Method of Operation for the Radical Cure of Femoral Hernia.—Mr. H. J. Curtis: A Successful Case of Appendicitic Abscess and Multiple Liver Abscess, Appendicectomy and Drainage.

TUESDAY (15th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—Card Specimens will be shown by Dr. Lawrence and Dr. C. Lockyer. Dr. V. Bonney, Dr. J. Bernstein, Dr. J. Teacher (Glasgow), Mr. Hicks, Dr. Williamson, and Dr. Spilsbury: Chorion-epithelioma.—Dr. J. Fawcett: Diphtheria of Œsophagus and Bronchi.

WEDNESDAY (16th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Exhibition of Pond Life.

FRIDAY (18th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5.30 P.M. Wightman Lecture: Dr. A. Broca (Paris): Appendicitis in Childhood.

EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Prof. R. Boyce (Liverpool): The Yellow Fever Epidemic in New Orleans in 1905.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. G. Little: Clinique. (Skin) 5.15 P.M. Lecture:—Mr. C. R. B. Keetley: (1) Appendicostomy; (2) Tuberculosis of the Cæcum.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Dr. Low: Tropical Medicine. 12 noon. Pathological Demonstration. Mr. Baldwin: Practical Surgery. 2 P.M. Medical and Surgical Clinics. 4 P.M. Mr. Dunn: Ophthalmology. 5 P.M. Dr. Saunders: Examination of Gastric Contents.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Sir D. Duckworth: Medicine. 3.15 P.M. Mr. W. Turner: Surgery. 4 P.M. Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Mercer: Demonstration (Mental). (Post-Graduate Course.)

TUESDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. B. Abrahams: Clinique. (Medical.) 5.15 P.M. Lecture:—Mr. H. J. Paterson: Gastric Ulcer.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Medical and Surgical Clinics. 3 P.M. Dr. S. Taylor: Demonstration in Medical Wards. 5 P.M. Mr. Armour: Intestinal Obstruction.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. R. T. Hewlett: Medicine. 3.15 P.M. Mr. Carless: Surgery. 4 P.M. Mr. M. Morris: Diseases of the Skin. Out patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. R. Russell: Cerebral Tumours.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Dr. G. N. Meachen: Diagnosis and Treatment of Ringworm.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M. Mr. W. R. Smith: The Law of Public Health. (Lectures III. and IV.)

WEDNESDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. A. H. Tubby: Clinique. (Surgical). 5.15 P.M. Lecture:—Dr. G. H. Savage: Dementia Præcox.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—11 A.M. Dr. Davis: Examination of Throat, Nose, and Ear. 12 noon. Dr. Russell: Medicine. 2 P.M. Medical and Surgical Clinics. 5 P.M. Dr. Beddard: Practical Medicine. (Lecture I.)

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. F. Taylor: Medicine. 3.15 P.M. Mr. M. Robson: Surgery. 4 P.M. Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 11 A.M. Eye.

UNIVERSITY COLLEGE HOSPITAL (Gower-street, W.C.).—4 P.M. Clinical Lecture:—Dr. B. Shaw: Types of Pulmonary Tuberculosis from the Point of View of Treatment (with illustrative cases).

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Dr. W. Wingrave: Pathology.

ROYAL INSTITUTE OF PUBLIC HEALTH (37, Russell-square, W.C.).—5 P.M. Dr. C. Prausnitz (Breslau): The Bacteriology of Water, Milk, and Tuberculosis. (Lecture II.)

THURSDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical). 5.15 P.M. Lecture:—Dr. H. Campbell: Observations on Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Medical and Surgical Clinics. 4 P.M. Mr. S. Edwards: Demonstration in Surgical Wards. 5 P.M. Mr. Baldwin: Practical Surgery.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. G. Rankin: Medicine. 3.15 P.M. Sir W. Bennett: Surgery. 4 P.M. Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Ear and Throat.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Demonstration:—Mr. H. Cooper: Electrical Treatment.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Hunter: Demonstration (Surgical).

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Lecture:—Dr. Poynton: Congenital Heart Disease.

FRIDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Clinique. (Ear).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Medical and Surgical Clinics. 5 P.M. Mr. Armour: Diagnosis of Appendicitis.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Dr. R. Bradford: Medicine. 3.15 P.M. Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 12 noon. Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Sir V. Horsley: Cerebral Surgery.

SATURDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Medical and Surgical Clinics. Dr. Beddard: Demonstration in Medical Wards.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M. Operations. Out-patient Demonstrations:—10 A.M. Surgical and Medical. 11 A.M. Eye.

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